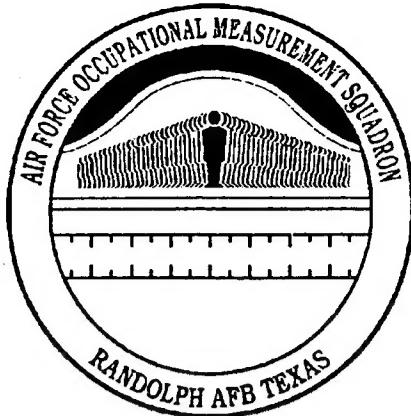
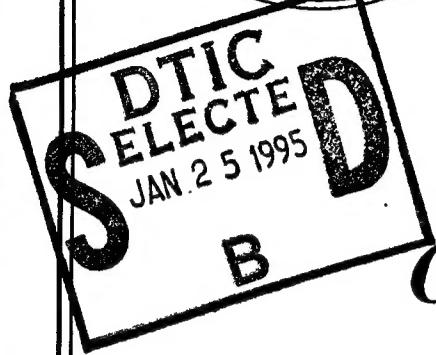


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UNITED STATES
AIR FORCE



OCCUPATIONAL SURVEY REPORT

ELECTRICAL POWER PRODUCTION

AFSC 3E0X2

AFPT 90-542-987

NOVEMBER 1994

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OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION and TRAINING COMMAND
1550 5th STREET EAST
RANDOLPH AFB, TEXAS 78150-4449

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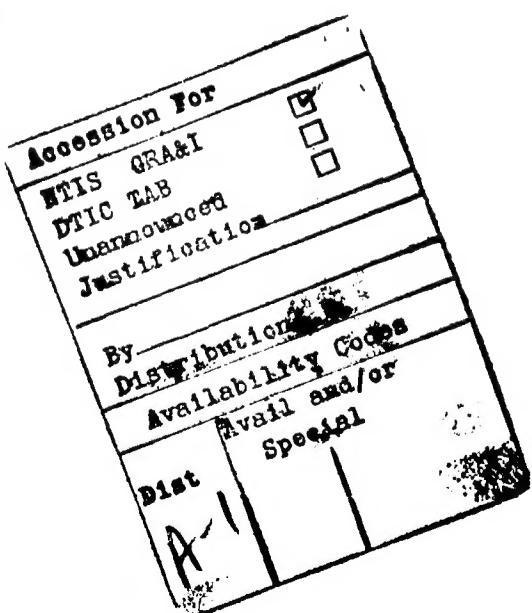


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PREFACE

This report presents the results of an Air Force occupational survey of the AFSC 3E0X2, Electrical Power Production, career ladder (formerly AFSC 542X2). Authority for conducting occupational surveys is contained in AFI 36-2623. Computer products used in this report are available for use by operations and training officials.

Mr. Don Cochran, Inventory Development Specialist, developed the survey instrument; Mrs. Joan Brooks, Occupational Analyst, analyzed the data and wrote the final report. Mrs. Becky Hernandez provided computer programming support, and Mr. Richard Ramos provided administrative support. Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron, reviewed and approved this report for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Air Force Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB, Texas 78150-4449 (DSN 487-6623).

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SUMMARY OF RESULTS

1. *Survey Coverage*: The Electrical Power Production (AFSC 3E0X2) career ladder was surveyed to obtain current job and task data for use in updating career ladder training documents and the technical school training program. Survey results are based on data collected from 1,041 AFSC 3E0X2 personnel. This represents 60 percent of the total assigned population.
2. *Specialty Jobs*: Structure analysis of the AFSC 3E0X2 data identified 11 jobs. Nine of the jobs were directly involved in performing technical duties pertaining to maintenance of generator sets, aircraft arresting systems, and the performance of mobility and contingency functions. The two remaining jobs involved Supervision and Training.
3. *Career Ladder Progression*: Normal career ladder progression within the AFSC 3E0X2 career ladder is evident. Three-skill level personnel spend the vast majority of their job time performing technical tasks involving maintenance of electrical power generation and distribution equipment and aircraft arresting barriers. At the 5-skill level, personnel are still heavily involved with electrical power production equipment maintenance, but begin to become involved with the nonmaintenance jobs such as training and supervision. Seven-skill level personnel reflect a shift toward supervisory and management work, although 56 percent are still involved with performing technical tasks.
4. *AFMAN 36-2108 Specialty Descriptions*: The 3- and 5-skill level Specialty Descriptions in AFMAN 36-2108 provide a broad and generally accurate description of the technical job for Electrical Power Production personnel. The 7-skill level Description accurately reflects the added supervisory, directing, and inspection functions at that level, as well as the continued performance of technical functions.
5. *Job Satisfaction Analysis*: In general, job satisfaction among AFSC 3E0X2 personnel is fairly high with no serious satisfaction problems noted. Personnel working in the Generator Sets Maintenance job had the lowest job satisfaction of any jobs identified.
6. *Implications*: The current AFSC 3E0X2 career ladder structure reflects a modestly diverse career ladder structure. Eight jobs were identified which involved electrical power production maintenance. In addition to these eight jobs, three other jobs were identified: Mobility and Contingency Operations, Supervision, and Training. *AFMAN 36-2108 Specialty Descriptions* broadly describes the maintenance jobs and tasks being performed. Job satisfaction is fairly high among career ladder incumbents. A detailed analysis of the Specialty Training Standard and Plan of Instruction will be performed at a later date.

**OCCUPATIONAL SURVEY REPORT (OSR)
ELECTRICAL POWER PRODUCTION CAREER LADDER
(AFSC 3E0X2)**

INTRODUCTION

This is a report of an occupational survey of the Electrical Power Production career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was conducted to obtain current job and task data. Data collected through this OSR will be utilized by training development personnel to review courses and related training documents in light of equipment and utilization changes which have occurred since the last OSR in 1985.

Background

As described in the *AFMAN 36-2108 Specialty Descriptions* for AFSC 3E0X2, 3- and 5-skill level members are responsible for installing and operating electrical power plants, distribution equipment, and aircraft arresting barriers. They maintain, inspect, repair, and modify electrical power generation and distribution equipment, and aircraft arresting barriers. They also maintain operation, inspection, and maintenance records. Seven-skill level craftsmen perform many of the same kinds of tasks as 3- and 5-skill level personnel, but also perform supervisory duties as well as administrative and supply functions necessary to manage a shop. Seven-skill level technical personnel are more likely to advise on problems with installing and repairing electrical power production equipment and aircraft arresting barriers; inspecting and analyzing electrical power production equipment and aircraft arresting barriers; and determining repair procedures necessary to correct defective equipment. Seven-skill level supervisors plan, schedule, evaluate, and supervise electrical power production activities and perform technical review of electrical power production functions.

Initial 3-skill level training for AFSC 3E0X2 personnel is currently provided through an 8-week, 3-day course at Sheppard AFB TX. This course covers such topics as fundamentals of gasoline and diesel engines; hydraulic and heat transfer principles; basic electricity and electronic applications; power generating system maintenance to include engine and control system components, electric generators, electrical switchgear components, and power plant auxiliary equipment; use of wiring diagrams to troubleshoot and locate defective components; single and parallel unit operation of prime power plants and standby emergency generators; and operation and maintenance of aircraft arresting barriers.

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Entry into the career ladder currently requires Armed Forces Vocational Aptitude Battery minimum scores of 57 Mechanical, 43 Electronic, and strength factor of K (70 lbs).

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) AFPT 90-542-987, dated November 1992. The Inventory Developer prepared a tentative task list by reviewing pertinent career ladder publications and directives and the previous JI and OSR. This task list was further refined and validated through personal interviews with 61 subject-matter experts representing a variety of major commands (MAJCOMs) at the following locations:

<u>BASE</u>	<u>UNIT VISITED</u>
Sheppard AFB TX	3770th Technical Training Squadron 3750th Civil Engineering Squadron
Tyndall AFB FL	325th Civil Engineering Squadron OL-D, AFCESA/CEMIRT AFCESA
Holloman AFB NM	49th Bare Base Maintenance Squadron 49th Civil Engineering Squadron
Eglin AFB FL	3202d Civil Engineering Squadron
Hurlburt Fld FL	823d Red Horse Civil Engineering Squadron
Cheyenne Mountain AFB CO	721st Civil Engineering Squadron
Tinker AFB OK	2854th Civil Engineering Squadron 33d Combat Communications Squadron OL-LJ, SM-ALC
Nellis AFB NV	820th Red Horse Civil Engineering Squadron 558th Civil Engineering Squadron

The resulting JI contained a comprehensive listing of 1,032 tasks grouped under 24 duty headings, with a background section requesting such information as grade, MAJCOM, job title, time in present job, time in service, job satisfaction, aircraft arresting systems maintained, switchgear maintained, generator sets maintained, contingency team assigned, and forms used.

Survey Administration

Military Personnel Flights at operational bases worldwide administered the inventory to 1,559 DAFSC 3E0X2 personnel holding a 3-, 5-, or 7-skill level. Personnel excluded from taking the survey comprised the following: (1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Military Personnel Center.

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in the member's current job. After checking all tasks performed, respondents then rated each task on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of the member's time spent on the job. First, the ratings are summed. Each task rating is then divided by the sum of task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

The final AFSC 3E0X2 survey sample includes responses from 1,041 job incumbents. Table 1 reflects the distribution, by MAJCOM, of assigned AFSC 3E0X2 personnel as of May 1993. The 1,041 respondents in the final sample represent 60 percent of all assigned AFSC 3E0X2 personnel. Table 2 reflects the distribution by paygrade. As shown by both tables, the survey sample accurately reflects the overall AFSC 3E0X2 population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 3E0X2 personnel

TABLE 1
MAJCOM REPRESENTATION OF SURVEY SAMPLE

MAJCOM	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
ACC	34	35
PACAF	17	15
USAFE	13	12
AMC	9	9
AFSPACECOM	9	12
AFMC	8	9
AETC	5	5
OTHER	5	3

TOTAL ASSIGNED = 1,734
 TOTAL SURVEYED = 1,559
 TOTAL IN SAMPLE = 1,041
 PERCENT OF ASSIGNED IN SAMPLE = 60%
 PERCENT OF SURVEYED IN SAMPLE = 67%

* As of May 1992

TABLE 2
PAYGRADE DISTRIBUTION OF SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 TO E-3	25	26
E-4	23	23
E-5	24	24
E-6	17	17
E-7	11	10
E-8	**	**

* As of May 1992
 ** Less than 1 percent

(generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. TD data were independently collected from 52 experienced 7-skill level personnel stationed worldwide. Interrater reliability was calculated and found acceptable. Ratings were standardized so tasks have an average difficulty rating of 5.00, with a standard deviation of 1.00. The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale from no training required to extremely high amount of TE. TE is a rating of which tasks require emphasis in structured training for first-term personnel. Structured training is defined as training provided by resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal on-the-job training (OJT), or any other organized training method. TE data were independently collected from 39 experienced 7-skill level personnel stationed worldwide. As with TD ratings, the interrater reliability was computed and found to be acceptable, indicating there was sufficient agreement among raters as to which tasks require some form of structured training. In this specialty, tasks have an average TE rating of 2.32. Tasks rated high in TE have a rating of 5.18 and above. As was discussed in the TD section above, TE data may also be used to rank order tasks, indicating those tasks which senior noncommissioned officers (NCOs) in the field consider the most important for first-enlistment airmen to be trained to perform.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide good insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS (Career Ladder Structure)

Each Air Force occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Electrical Power Production career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a job. A hierarchical grouping program, which is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system, creates an individual job description for each respondent (all the tasks performed by that individual and the relative amount of time spent on those tasks). It then compares each job description to every other job description in terms of tasks performed and the relative amount of time spent on each task in the JI. The automated system locates the two job descriptions with the most similar tasks and percent time ratings and combines them to form a composite job description. In successive stages, the system adds new members to the initial group, or forms new groups based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

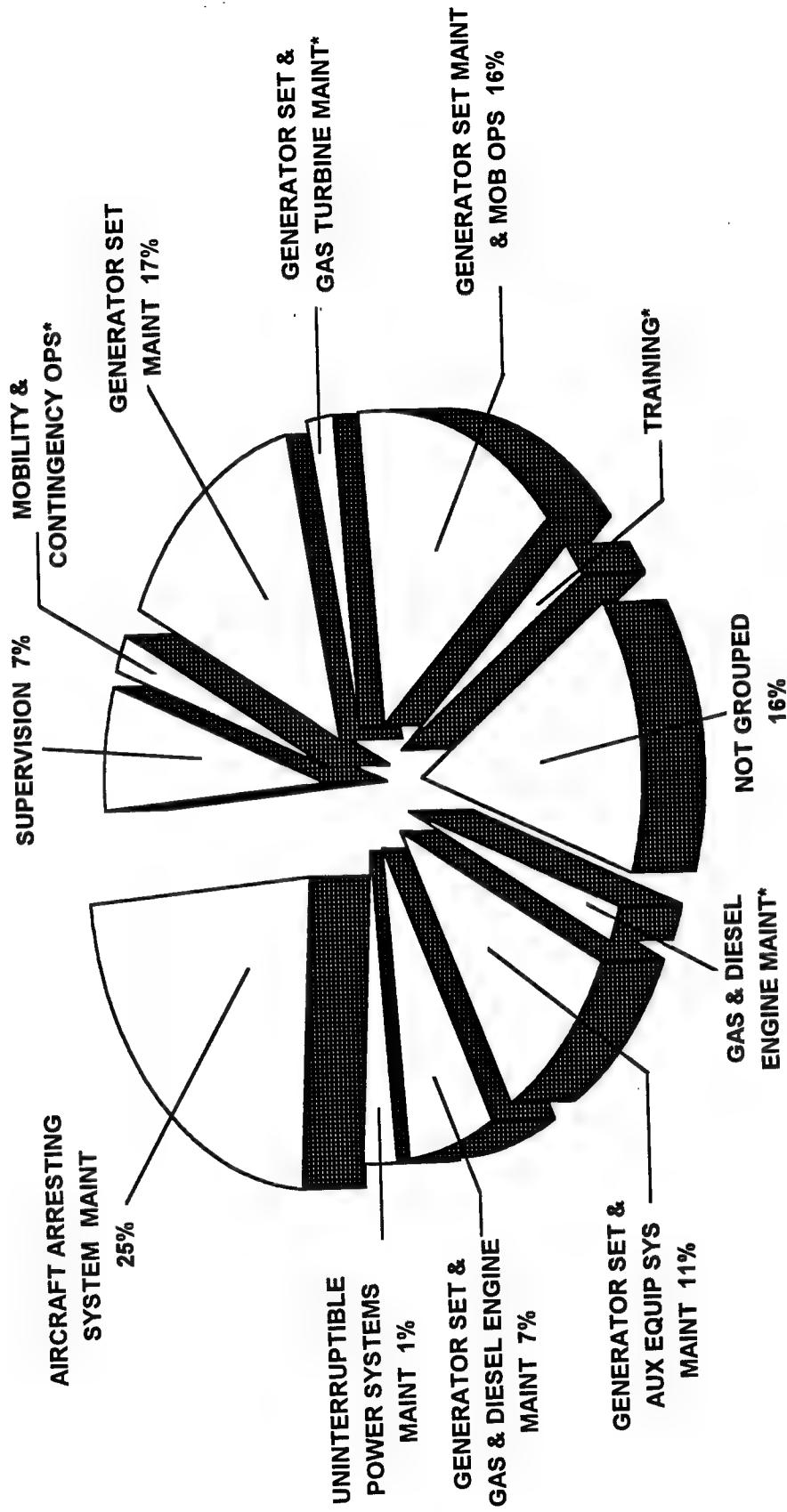
When there is a substantial degree of similarity between jobs, they are grouped together and identified as a cluster. The job structure resulting from this grouping process (the various jobs and clusters within the career ladder) can be used to evaluate the accuracy of career ladder documents (Career Field Education and Training Plans (CFETP), AFMAN 36-2108 Specialty Descriptions, and Specialty Training Standards (STS)), and to gain a better understanding of current utilization patterns.

Overview of Specialty Jobs

Based on the similarity of tasks performed and the amount of time spent performing each task, 11 jobs were identified within the AFSC 3E0X2 survey sample. A listing of these jobs is provided below and illustrated in Figure 1. The stage (ST) number shown beside each title references computer-generated information; the letter "N" stands for the number of personnel in each group.

- I. Generator Set Maintenance (STG060, N=172)
- II. Generator Set Maintenance and Mobility Operations (STG157, N=163)
- III. Generator Set and Gas Turbine Maintenance (STG213, N=9)
- IV. Generator Set and Auxiliary Equipment Systems Maintenance (STG234, N=111)
- V. Generator Set and Gasoline and Diesel Engine Maintenance (STG104, N=74)
- VI. Aircraft Arresting Systems (AAS) Maintenance (GRP047, N=264)
- VII. Mobility and Contingency Operations (STG186, N=10)
- VIII. Supervision (STG098, N=73)
- IX. Training (STG081, N=5)

JOBS PERFORMED BY ALL AFSC 3E0X2 PERSONNEL



* Less than 1 percent

FIGURE 1

X. Gasoline and Diesel Engine Maintenance (STG120, N=8)

XI. Uninterruptible Power Systems (UPS) Maintenance (STG153, N=12)

The respondents forming these groups account for 84 percent of the survey sample. The remaining 16 percent are performing tasks or a series of tasks which do not group with any of the defined jobs. Examples of job titles for these people include Readiness NCO, noncommissioned officer-in-charge facilities, Vehicle Control NCO, and Curriculum Developer.

Group Descriptions

The following paragraphs contain brief descriptions of the 11 jobs identified through the career ladder structure analysis. Also presented are two tables which reflect the time incumbents spend on duties and selected background data for each group. Table 3 presents the relative time spent by respondents in each job across each duty listed in the JI. Table 4 displays selected background information, such as DAFSC distributions across each group, average of total months in active military service (i.e., Total Active Federal Military Service (TAFMS)), and average number of tasks performed. Appendix A at the back of this OSR lists representative tasks performed by members of each group.

Another way to illustrate these jobs is to summarize tasks performed into groups of tasks or task modules (TMs). This allows for a very concise display of where job incumbents spend most of their time and thus develops a comprehensive overview of each job. These modules were identified through CODAP coperformance clustering, which presents the average probability that if you perform one task, you also perform a second task or a group of related tasks. The probabilities are calculated on the actual coperformance of tasks by respondents in this survey sample. Representative TMs are listed as part of each job description. The listing of the TMs shows the number of tasks included in a module and the percent time spent on tasks in that module, and finally, an average percent of members performing the particular TM. The list of modules, with respective tasks, is presented in Appendix B.

I. GENERATOR SET MAINTENANCE (STG060, N=172). Incumbents in this job perform an average of 78 tasks and are responsible for maintaining generator sets and electrical power production equipment. Personnel spend 26 percent of their time maintaining generator sets (see Table 3). They operationally inspect, record readings, refuel, and start up generator sets. Examples of tasks performed include:

perform walk around inspections of generator sets
during operation
take or record engine indicator readings

TABLE 3

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E0X2 JOB GROUPS

DUTIES	GENERATOR SET (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
A ORGANIZING AND PLANNING	3	5	2	8	7	4
B DIRECTING AND IMPLEMENTING	1	2	2	4	4	2
C INSPECTING AND EVALUATING	2	3	2	6	5	3
D TRAINING	1	2	2	4	4	3
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	6	5	3	10	9	6
F PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*	*	0	1	*	1
G PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	17	15	8	11	9	9
H MAINTAINING AUTOMATIC TRANSFER PANELS	3	3	*	2	*	2
I MAINTAINING GASOLINE AND DIESEL ENGINES	3	4	5	5	10	2
J MAINTAINING GAS TURBINE ENGINES	*	*	18	*	*	*
K MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4	3	2	3	5	2
L MAINTAINING LUBRICATING SYSTEMS	5	5	5	3	5	2
M MAINTAINING FUEL SYSTEMS	7	10	10	7	7	5
N MAINTAINING COOLING SYSTEMS	3	4	4	3	3	2
O MAINTAINING GOVERNORS	1	*	2	2	2	1

* Denotes Less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3E0X2 JOB GROUPS

DUTIES	GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE SYSTEMS (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
P MAINTAINING INTAKE AND EXHAUST SYSTEMS	2	2	4	2	3	1
Q MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	*	4	1	3	1
R MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3	3	2	3	3	2
S MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	1	*	0	*	3	*
T OPERATING AND MAINTAINING GENERATOR SETS	26	17	11	9	10	7
U PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*	*	2	*
V MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASS)	2	2	4	2	*	37
W PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	3	12	7	11	1	6
X PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	3	3	2	3	5	2

* Denotes Less than 1 percent
 NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 3 (CONTINUED)

AVERAGE PERCENT TIME SPENT ON DUTIES BY AFSC 3EOX2 JOB GROUPS

DUTIES	MOBILITY & CONTINGENCY (STG186)	SUPV (STG098)	TRNG (STG081)	GASOLINE & DIESEL ENGINE (STG120)	UPS (STG153)
A ORGANIZING AND PLANNING	12	21	16	1	7
B DIRECTING AND IMPLEMENTING	7	13	10	1	5
C INSPECTING AND EVALUATING	10	15	13	1	5
D TRAINING	5	10	44	*	10
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5	14	7	2	15
F PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	0	3	*	0	1
G PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	7	5	1	17	9
H MAINTAINING AUTOMATIC TRANSFER PANELS	0	1	*	*	0
I MAINTAINING GASOLINE AND DIESEL ENGINES	1	1	*	44	0
J MAINTAINING GAS TURBINE ENGINES	0	*	*	0	0
K MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	1	1	*	2	1
L MAINTAINING LUBRICATING SYSTEMS	1	*	*	5	0
M MAINTAINING FUEL SYSTEMS	5	1	*	8	0
N MAINTAINING COOLING SYSTEMS	1	*	*	2	0
O MAINTAINING GOVERNORS	0	1	*	3	*
P MAINTAINING INTAKE AND EXHAUST SYSTEMS	1	*	*	1	0
Q MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	*	*	1	0
R MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	1	1	*	2	2
S MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	0	0	*	0	44
T OPERATING AND MAINTAINING GENERATOR SETS	10	5	*	6	0
U PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	0	*	1	3	*
V MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASS)	*	1	*	0	0
W PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	30	4	1	*	*
X PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES SYSTEMS	3	2	7	*	1

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 4

SELECTED BACKGROUND DATA FOR AFSC 3E0X2 CAREER LADDER JOBS

GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP SYSTEMS (STG234)	GENERATOR SET & GAS & DIESEL ENGINE (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
172	163	9	111	74	264
17%	16%	*	11%	7%	25%
72%	82%	100%	84%	61%	61%
DAFSC DISTRIBUTION:*					
3E032	42%	34%	44%	9%	35%
3E052	56%	57%	44%	51%	50%
3E072	2%	9%	11%	40%	15%
PREDOMINANT PAYGRADE(S)					
AVERAGE MONTHS IN SERVICE (TAFMS)	67	79	82	156	119
PERCENT IN FIRST ENLISTMENT	52%	38%	33%	10%	16%
AVERAGE NUMBER OF TASKS PERFORMED					
PERCENT SUPERVISING	21%	36%	67%	82%	66%
					49%

* Less than 1 percent

NOTE: Columns may not total 100 percent due to rounding

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR AFSC 3E0X2 CAREER LADDER JOBS

	NUMBER IN GROUP	MOBILITY & CONTINGENCY			GASOLINE & DIESEL		
		SUPV	TRNG	ENGINE	UPS		
	10	73	5	8	12		
	*	7%	*	*	1%		
	90	63%	60%	63%	100%		
<hr/>							
DAFSC DISTRIBUTION:**							
3E032	0%	1%	0%	37%	0%		
3E052	10%	23%	20%	63%	67%		
3E072	90%	75%	80%	0%	33%		
<hr/>							
PREDOMINANT PAYGRADE(S)							
AVERAGE MONTHS IN SERVICE (TAFMS)	190	190	192	71	148		
PERCENT IN FIRST ENLISTMENT	0%	1%	0%	51%	0%		
<hr/>							
AVERAGE NUMBER OF TASKS PERFORMED							
PERCENT SUPERVISING	166	120	67	107	89		
	100%	95%	80%	12%	42%		

* Less than 1 percent

NOTE: Columns may not total 100 percent due to rounding

perform stand by engine run ups
 refuel generator sets or storage tanks
 monitor or adjust engine controls during operation
 place generator sets online after power failures
 start or shut down generator sets
 perform preoperational inspections of generator sets
 perform postoperational inspections of generator sets

Representative TMs for this cluster include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	35	66%
0009	COMPRESSORS	8	2	24%
0006	PROTECTIVE CLOTHING AND EQUIPMENT	7	2	21%

The Generator Sets module data above clearly show how specialized this job is, with 35 percent of the job time spent on the 30 tasks in that module.

Personnel working in this job have the least experience, with 52 percent in their first enlistment, and 56 percent holding a 5-skill level. The average TAFMS for these incumbents is 67 months, and the predominant paygrades of the job incumbents are E-3 and E-4.

II. GENERATOR SET MAINTENANCE AND MOBILITY OPERATIONS (STG157, N=163). This job involves many of the same technical maintenance tasks as the previous job. However, personnel in this job spend 12 percent of their time dealing with mobility operations and contingency activities. Commonly performed tasks include:

perform walk around inspections of generator sets
 during operation
 refuel generator sets or storage tanks
 start or shut down generator sets
 perform preoperational inspections of generator sets
 perform postoperational inspections of generator sets
 perform generator set single unit operations
 fire weapons, such as 9mm caliber pistols or M-16 rifles
 tear down, inspect, clean, and reassemble weapons,
 such as 9mm caliber pistols or M-16 rifles

erect tents
 prepare personal clothing for deployment
 install tent lighting
 don or doff chemical warfare personal protective clothing

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	25	88%
0005	MOBILITY AND CONTINGENCY	37	10	38%
0002	LIGHTING EQUIPMENT	4	1	40%

The TM data show that the largest percent of the job time (25 percent) is spent on the 30 tasks comprising the Generator Sets TM, with the Mobility and Contingency TM showing 10 percent of the time spent. These data tend to indicate that generator set maintenance is the predominant function within this job, with mobility and contingency tasks being a secondary function.

Personnel in this job average 79 months' TAFMS, with 38 percent in their first enlistment. Fifty-seven percent hold the 5-skill level. The predominant paygrades of job incumbents are E-3, E-4, and E-5.

III. GENERATOR SET AND GAS TURBINE MAINTENANCE (STG213, N=9). Respondents in this job replace, calibrate, test, clean, and operationally inspect gas turbine engines, in addition to starting, testing, and refueling generator sets. Job incumbents spend 18 percent of their time in Duty J, Maintaining Gas Turbine Engines, and 11 percent in Duty T, Operating and Maintaining Generator Sets (see Table 3). Commonly performed tasks include:

perform postoperational inspections of gas turbine engines
 calibrate Solar 750kw gas turbine engine speed monitors
 test Solar 750kw gas turbine exhaust temperature monitors
 replace gas turbine engine starting system components
 replace gas turbine engine ignitors
 clean gas turbine engine starting system components

test generator sets using load banks
 start or shutdown generator sets
 refuel generator sets or storage tanks

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0033	GAS TURBINE	14	6	83%
0034	SOLAR 750KW GAS TURBINE	24	10	81%
0001	GENERATOR SETS	30	14	81%

The TM data show that the largest percent of the job time (16 percent) is spent on the 38 tasks comprising the Gas Turbine and Solar 750kw Gas Turbine TMs. Tasks in all three of these TMs are performed by substantial percentages of this job.

Forty-four percent of those holding this job have a 3- or 5-skill level and average 82 months' TAFMS. Thirty-three percent are in their first enlistment. One hundred percent are assigned to the CONUS.

IV. GENERATOR SET AND AUXILIARY EQUIPMENT SYSTEMS MAINTENANCE (STG234, N=111) AFSC 3E0X2 personnel in the Generator Sets and Auxiliary Equipment System job perform an average of 268 tasks, more tasks than personnel with any other job in the career ladder. In addition to maintaining generator sets, personnel work on a variety of auxiliary equipment such as battery chargers, voltage regulators, and load banks. This broad job also includes supervisory duties. Representative tasks performed by these members include:

perform generator sets single unit operations
 perform walk around inspections of generator sets
 during inspection
 start or shut down generator sets
 perform preoperational inspections of generator sets
 connect or disconnect generator sets cables
 perform postoperational inspections of generator sets
 adjust battery chargers
 inspect or clean battery chargers
 replace battery charger components or units
 assign maintenance or repair work

counsel personnel on personal or military-related
 matters
 determine or establish work priorities
 adjust voltage regulators

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	12	90%
0010	FIRST-LINE SUPERVISION	45	13	66%
0003	FUEL SYSTEMS	6	1	52%
0004	TRANSFER PANELS	9	1	41%
0016	GOVERNORS	11	1	36%
0009	COMPRESSORS	8	1	33%

As expected, the Generator Sets module is the most predominant module for this group, with generator set tasks in the module being performed by an average of 90 percent of group members. First-line supervision tasks also account for a substantial amount of their job time.

Respondents with this job average 156 months' TAFMS, 51 percent hold the 5-skill level, 40 percent hold the 7-skill level, and most are in paygrades E-5 and E-6. Eighty-two percent report having supervisory responsibilities.

V. GENERATOR SET AND GASOLINE AND DIESEL ENGINE MAINTENANCE (STG104, N=74). Incumbents in this job perform an average of 208 tasks and spend 10 percent of their time performing gasoline and diesel engine maintenance. Respondents spend a majority of their duty time inspecting, replacing, adjusting, and isolating gasoline and diesel engine components and generator sets at the local level. Commonly performed tasks include:

change lubricating oil
 perform walk around inspections of generator sets
 during inspection
 perform preoperational inspections of generator sets
 perform postoperational inspections of generator sets
 inspect engine circuits or protective devices
 interpret meter readings
 take or record engine indicator readings

inspect crankshafts
 adjust engine safety circuits or protective devices
 replace engine seals or gaskets
 adjust air start system components
 isolate malfunctions within engine safety circuits or
 protective devices

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0001	GENERATOR SETS	30	13	77%
0022	ENGINES	41	7	36%
0009	COMPRESSORS	8	2	58%
0020	FUEL INJECTORS	5	1	50%

Although members spend 13 percent of their job time performing 30 generator set tasks, they also spend 10 percent of their job time performing engine, compressor, and fuel injector tasks. Most of these 74 personnel hold the 5-skill level, with the predominant paygrade being E-5. Average time in service is 119 months. Only 16 percent are in their first enlistment.

VI. AIRCRAFT ARRESTING SYSTEMS (AAS) MAINTENANCE (GRP047, N=264). This job is characterized by the time spent maintaining and inspecting aircraft arresting barriers. It is performed by the largest number of respondents, comprising 25 percent of the sample. Personnel in this job perform an average of 242 tasks. Members spend 37 percent of their time performing AAS maintenance. Commonly performed tasks include:

inspect AAS tape connector wear
 inspect AAS tape stack heights
 adjust AAS cam zero indexes
 crop AAS tapes
 bleed AAS hydraulic systems
 attach or install AAS hook cables or pendants
 adjust AAS cam control valve clearances
 inspect AAS nitrogen systems
 inspect AAS hook cables
 refill AAS nitrogen systems
 inspect runway surface beneath AAS hook cables
 fill AAS hydraulic systems

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0015	AIRCRAFT ARRESTING SYSTEMS	150	38	50%
0001	GENERATOR SETS	30	12	73%

The TM data show that the largest percent of the job time (38 percent) is spent on the 150 tasks comprising the AAS TM. Fifty percent of the members hold the 5-skill level, 35 percent hold the 3-skill level, and 15 percent hold the 7-skill level. Predominant paygrades range from E-3 through E-5. Average TAFMS is 91 months. Thirty-eight percent are in their first enlistment.

VII. MOBILITY AND CONTINGENCY OPERATIONS (STG186, N=10). Incumbents perform an average of 166 tasks. With very little time spent on generator set maintenance, respondents spend 30 percent of their duty time preparing for and participating in mobility and contingency activities, as well as performing supervisory functions. The following are typical tasks the members of this job perform:

- prepare equipment for deployment
- operate M-series vehicle for contingency exercises or operations
- palletize contingency equipment
- conduct mobility exercises or deployment site surveys
- pack contingency equipment
- operate refueling vehicles for contingency exercises or operations
- participate in convoy exercises
- prepare personal clothing for deployments
- determine or establish work priorities
- schedule personnel for leaves, passes, or temporary duty (TDY)
- counsel personnel on personal or military-related matters
- conduct performance feedback worksheet (PFW) evaluation sessions
- conduct self-inspections
- write EPRs

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0005	MOBILITY AND CONTINGENCY	37	22	68%
0010	FIRST-LINE SUPERVISION	45	20	64%
0001	GENERATOR SETS	30	12	65%

Not surprisingly, the top TM for this job involves mobility and contingency activities. While Generator Sets is also a part of this job, the percent time spent performing those tasks is much smaller (12 percent), compared to those performing mobility and contingency related tasks (22 percent).

Ninety percent of these job incumbents hold the 7-skill level. Average time in service is 190 months. There are no incumbents in their first enlistment. The predominant paygrade is E-6.

VIII. SUPERVISION (STG098, N=73). Unlike the first seven technically oriented jobs above, personnel in this job primarily perform supervisory and management tasks. Although some technical tasks are performed, 63 percent of their job time is spent on supervisory and administrative duties (see Table 3). This includes supervising, counseling and evaluating subordinates, and determining personnel and equipment requirements. These functions are shown by the following tasks;

- counsel personnel on personal or military-related matters
- write EPRs
- write recommendations for awards or decorations
- conduct performance feedback worksheet (PFW) evaluation sessions
- establish performance standards for subordinates
- supervise electrical power production specialists (AFSC 54252)
- determine or establish work priorities
- assign personnel to work crews
- conduct supervisory orientations of newly assigned personnel
- schedule personnel for leaves, passes, or temporary duty (TDY)

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0010	FIRST-LINE SUPERVISION	45	35	77%
0011	ON-THE-JOB TRAINING (OJT)	6	2	43%
0013	SUPERVISION AND MANAGEMENT	25	9	41%

The TM data show a highly focused job, in that 35 percent of the job time is spent in one module (First-Line Supervision), with smaller amounts of time being spent on the other areas. The remaining modules listed are functions normally handled only by supervisors.

Most personnel performing this job hold a 5-skill level (23 percent) or a 7-skill level (75 percent). Only 1 percent are in their first enlistment, and personnel average 190 months' time in service. Ninety-five percent indicate they supervise one or more personnel. Predominant paygrades are E-6 and E-7.

IX. TRAINING (STG081 N=5). As with nearly all other career ladders, a number of personnel spend most of their duty time performing training functions at bases other than the technical school. Respondents in this job spend 43 percent of their time performing these training functions. This job entails developing tests, counseling trainees, and developing training aids. Members also instruct some formal classes and manage OJT courses. Commonly performed tasks include:

- brief unit staff personnel on training programs or matters
- administer or score tests
- evaluate progress of trainees
- write test questions
- write or revise training materials
- schedule personnel for training
- write training reports
- maintain training records, charts, graphs, or files
- evaluate training materials or aids
- construct or develop training aids

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0011	ON-THE-JOB TRAINING (OJT)	6	7	57%
0029	TRAINING	24	26	47%
0010	FIRST-LINE SUPERVISION	45	27	44%

The three TMs listed above account for 60 percent of the total job time of personnel performing this job. They reflect the training focus of this job.

Personnel with the Training job hold either the 5- or 7-skill level. Most are in paygrades E-6 and E-7, and average 192 months' TAFMS. Average number of tasks performed is 67.

X. GASOLINE AND DIESEL ENGINE MAINTENANCE (STG120, N=8). As contrasted with the Generator Set and Gasoline and Diesel Engine Maintenance job, personnel in this job spend 44 percent of their time maintaining gasoline and diesel engines at the depot level. The job entails an average of 107 tasks which deal with assembling, measuring, and inspecting engine components. Commonly performed tasks include:

- assemble or disassemble engines
- measure crankshaft end-thrust clearances
- inspect crankshafts
- inspect cylinder liners
- inspect camshafts
- inspect engine blocks
- inspect engine crankcases
- inspect cylinder heads
- measure cylinder liners
- measure connecting rod and main bearing clearances
- perform corrosion control on electrical power production equipment
- clean cylinder heads

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0022	ENGINES	41	36	77%
0001	GENERATOR SETS	30	14	45%
0023	POWER PLANT	6	2	33%

As expected, the predominant module for this job is the Engines module, with 36 percent of the total job time spent on the 41 tasks in that module. Personnel in this job hold a 3- or 5-skill level, with an average time in service of 71 months and a predominant paygrade of E-3 or E-4. Fifty-one percent are in their first enlistment.

XI. UNINTERRUPTIBLE POWER SYSTEMS (UPS) MAINTENANCE (STG153, N=12). Personnel in this job spend 44 percent of their duty time performing tasks which deal with UPS maintenance. The job entails isolating malfunctions within UPS, as well as performing standard maintenance and repair functions. Commonly performed tasks include:

- perform single unit operations of SSUPS
- perform periodic maintenance on SSUPS
- perform PMIs of SSUPS battery banks
- shut down or start up SSUPS
- test SSUPS batteries
- isolate malfunctions with SSUPS inverters
- isolate malfunctions with SSUPS rectifier/chargers
- isolate malfunctions with SSUPS printed circuit boards
- isolate malfunctions with SSUPS control circuits
- isolate malfunctions with SSUPS battery banks
- isolate malfunctions with SSUPS static switches
- align control circuitry of solid-state uninterruptible power systems (SSUPS)
- replace SCRs in SSUPS

Representative TMs for this job include:

TM	Module Title	No. of Tasks	Sum Percent Time Spent	Avg. Percent Members Perf.
0031	SOLID STATE UNINTERRUPTIBLE POWER SYSTEMS (SSUPS)	35	45	84%
0012	SUPPLY AND ADMINISTRATION	21	6	36%

As expected, the SSUPS module is the primary module, with 45 percent of the total job time spent on the 35 tasks comprising this module, indicating a very specialized job.

Sixty-seven percent of these personnel hold a 5-skill level, with the average time in service being 148 months. The predominant paygrades of group members is E-5 or E-6, and none are in their first enlistment.

Comparison of Current Jobs to Previous Survey Findings

The results of the specialty job analysis were compared to those of the last Electrical Power Production OSR published in 1985. Although the job titles vary between the two studies, generally, the tasks that the personnel in both studies perform are the same. As shown in Table 5, eight jobs in the current study were also identified in 1985. Two jobs, however, were identified in this survey, but not identified in the 1985 survey. These were the Generator Set Maintenance and Mobility operations, and Mobility and Contingency Operations jobs. Two jobs, Electrical Protective Devices Maintenance Personnel and Electrical Power Production Instructors, were identified in the 1985 survey, but were not identified as a distinct group in the present study.

SUMMARY

Job structure analysis reveals the Electrical Power Production Specialty to be fairly diverse. There is a common thread among most of the technical jobs involving maintenance and operation of electrical generator sets. However, each of the 11 identified jobs has characteristics associated with maintaining other equipment, such as SSUPS, aircraft arresting systems; or unique functions such as mobility, contingency, training, and management functions. This structure has been relatively stable over the past 9 years.

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
VERSUS 1985 STUDY

1993 STUDY (N=1,041)	1985 STUDY (N=1,672)*
Generator Set Maintenance	First-Job General Power Production Personnel Fixed Power Production Equipment Operators Not Identified
Generator Set Maintenance and Mobility Operations	Portable Generator Set Maintainer and Operator Personnel
Generator Set and Gas Turbine Maintenance	Portable Generator Set Maintainer and Operator Personnel
Generator Set and Auxiliary Equipment Systems Maintenance	CEMIRT Power Production Personnel
Generator Set and Gasoline and Diesel Engine Maintenance	Aircraft Arresting Barrier and Power Maintenance and Operation Personnel Senior Level Aircraft Arresting Barrier Personnel First-Job Aircraft Arresting Barrier Personnel Not Identified
Aircraft Arresting Systems Maintenance	NCOIC - Electrical Power Production Shop Electrical Power Production Supervisory Personnel Work Leaders, Supervisors (Non-CE)
Mobility and Contingency Operations Personnel	Prime Power Plant and Standby Power Plant Personnel
Supervision	Gas, Natural Gas, Diesel Engine Technicians Uninterruptible Power Systems Technicians Not Identified
Training	Gasoline and Diesel Engine Maintenance Uninterruptible Power Systems Maintenance Not Identified
	Electrical Power Devices Maintenance Personnel Electrical Power Production Instructors Not Identified

* Includes civilians

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may be used to evaluate how well career ladder documents, such as the CFETP, *AFMAN 36-2108 Specialty Descriptions*, and the STS, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the AFSC 3E0X2 career ladder. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time maintaining generator sets and aircraft arresting systems. As incumbents move up to the 7-skill level, higher percentages work in the Supervision job, but many personnel still spend some time on technical tasks involving aircraft arresting systems, mobility and contingency operations, and generator sets. (See Tables 6 and 7).

Skill-Level Descriptions

DAFSC 3E032. The 272 airmen in the 3-skill level group, representing 23 percent of the survey sample, spend most of their job time maintaining generator sets, performing general electrical power production activities, and maintaining AASs. (See Table 7.) Thirty-four percent are working in the AAS job, with 27 percent working in the Generator Set Maintenance job, and 20 percent in the Generator Set Maintenance and Mobility Operations job (see Table 6).

Table 8 lists representative tasks performed by 3-skill level incumbents. Most tasks listed relate to Duty G (Performing General Electrical Power Production Activities) and Duty T (Operating and Maintaining Generator Sets).

DAFSC 3E052. The 532 airmen in the 5-skill level group represent 51 percent of the total survey sample. As with 3-skill level personnel, the largest percentages of these incumbents are working in the AAS job (25 percent). However, several shifts in jobs performed are noted. Jobs performed by 5-skill personnel broaden from primarily three to six jobs. While time on generator set maintenance decreases, that time is increasing in areas dealing with auxiliary equipment, gasoline and diesel engine, and gas turbine engines. (See Table 6.)

Representative tasks performed by 5-skill level incumbents are listed in Table 9. Table 10 reflects those tasks which best differentiate 5-skill level personnel from their 3-skill level counterparts. All tasks in the table show a negative value, indicating that 5-skill level personnel

TABLE 6

DISTRIBUTION OF SKILL-LEVEL MEMBERS ACROSS CAREER LADDER JOBS
(PERCENT MEMBERS RESPONDING)

JOB	DAFSC 3E032 (N=272)		DAFSC 3E052 (N=532)		DAFSC 3E072 (N=237)
	27	18	20	17	
I. Generator Set Maintenance					1
II. Generator Set Maintenance and Mobility Operations					6
III. Generator Set and Gas Turbine Maintenance	1	7	1	7	4
IV. Generator Set and Auxiliary Equipment Systems Maintenance	4	11	4	11	19
V. Generator Set and Gasoline and Diesel Engine Maintenance	2	10	2	10	6
VI. Aircraft Arresting Systems Maintenance	34	25	34	25	17
VII. Mobility and Contingency Operations	0	*	0	*	4
VIII. Supervision	*	3	*	3	23
IX. Training	0	*	0	*	1
X. Gasoline and Diesel Engine Maintenance	1	1	1	1	0
XI. Uninterruptable Power Systems Maintenance	0	2	0	2	2
XII. Ungrouped	8	6	8	6	17

* Less than 1 percent

TABLE 7

TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS
(RELATIVE PERCENT OF JOB TIME)**

DUTIES	DAFSC (N=272)	DAFSC (N=532)	DAFSC (N=237)
A ORGANIZING AND PLANNING	3	6	15
B DIRECTING AND IMPLEMENTING	1	3	8
C INSPECTING AND EVALUATING	1	4	11
D TRAINING	1	4	8
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5	7	10
F PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*	*	2
G PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	15	12	6
H MAINTAINING AUTOMATIC TRANSFER PANELS	3	2	1
I MAINTAINING GASOLINE AND DIESEL ENGINES	0	5	2
J MAINTAINING GAS TURBINE ENGINES	1	*	1
K MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4	3	2
L MAINTAINING LUBRICATING SYSTEMS	4	3	1
M MAINTAINING FUEL SYSTEMS	7	6	3
N MAINTAINING COOLING SYSTEMS	3	3	1
O MAINTAINING GOVERNORS	1	1	1
P MAINTAINING INTAKE AND EXHAUST SYSTEMS	2	2	1
Q MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1	1	1
R MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3	2	1
S MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	*	2	1
T OPERATING AND MAINTAINING GENERATOR SETS	15	13	6
U PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*
V MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASS)	17	11	6
W PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	6	7	8
X PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	2	3	3

* Denotes less than 1 percent

NOTE: Columns may not add exactly to 100 percent due to rounding

TABLE 8
REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E032 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=272)
G256 Perform general cleaning of electrical power production equipment	87
T730 Start or shutdown generator sets	85
L440 Change lubricating oil	85
N511 Add antifreeze to cooling systems	83
G266 Replace batteries	82
T726 Perform walk around inspections of generator sets during operation	81
T724 Perform preoperational inspections of generator sets	80
T723 Perform postoperational inspections of generator sets	80
G277 Service or charge lead-acid-type batteries	78
T728 Refuel generator sets or storage tanks	78
T725 Perform stand-by engine run-ups	77
T722 Perform generator set single unit operations	76
G235 Inspect power generating equipment drive belts	76
G255 Perform corrosion control on electrical power production equipment	75
T732 Take or record engine indicator readings	74
M470 Inspect or clean fuel filters or strainers	73
R639 Replace fuses	72
T733 Test generator sets using load banks	72
L455 Replace lube oil filters or strainers	70
L443 Fill lubrication systems	69
T713 Interpret meter readings	68
M489 Replace fuel filters or strainers	68
T727 Place generator sets on line after power failures	67
T715 Monitor or adjust engine controls during operation	65
G258 Perform or practice cardiopulmonary resuscitation (CPR)	65
M485 Prime or bleed fuel systems	65
T711 Connect or disconnect generator set cables	64
G226 Adjust power generating equipment drive belts	64
G241 Interpret wiring or schematic diagrams	64
G281 Set up or remove portable generators at remote locations	63

TABLE 9

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E052 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=532)
T726 Perform walk around inspections of generator sets during operation	81
G256 Perform general cleaning of electrical power production equipment	80
T730 Start or shutdown generator sets	80
T724 Perform preoperational inspections of generator sets	78
G266 Replace batteries	78
T723 Perform postoperational inspections of generator sets	77
L440 Change lubricating oil	76
G255 Perform corrosion control on electrical power production equipment	76
G277 Service or charge lead-acid-type batteries	75
N511 Add antifreeze to cooling systems	74
T722 Perform generator set single unit operations	73
T728 Refuel generator sets or storage tanks	72
G258 Perform or practice cardiopulmonary resuscitation (CPR)	71
G235 Inspect power generating equipment drive belts	70
T725 Perform stand-by engine run-ups	69
M489 Replace fuel filters or strainers	69
M470 Inspect or clean fuel filters or strainers	69
L455 Replace lube oil filters or strainers	67
T732 Take or record engine indicator readings	67
T713 Interpret meter readings	66
T715 Monitor or adjust engine controls during operation	65
G241 Interpret wiring or schematic diagrams	64
L443 Fill lubrication systems	64
T727 Place generator sets on line after power failures	63
M485 Prime or bleed fuel systems	63
G226 Adjust power generating equipment drive belts	63
M467 Drain water from fuel system components	62
T733 Test generator sets using load banks	61
G272 Replace power generating equipment drive belts	60
R639 Replace fuses	60

TABLE 10

TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 3E032 AND DAFSC 3E052 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS	3E032 (N=272)	3E052 (N=532)	DIFFERENCE
C93 Write EPRs	3	48	-45
B38 Counsel personnel on personal or military-related matters	10	52	-42
C63 Conduct performance feedback worksheet (PFW) evaluation sessions	7	45	-38
B57 Supervise Electrical Power Production Specialists (AFSC 54252)	3	39	-35
A20 Establish performance standards for subordinates	7	42	-34
D122 Evaluate progress of trainees	6	39	-33
D104 Conduct OJT	17	50	-33
D109 Counsel trainees on training progress	6	38	-33
A1 Assign maintenance and repair work	15	47	-32
D126 Maintain training records, charts, graphs, or files	11	42	-31
B56 Supervise Apprentice Electrical Power Production Specialists (AFSC 54232)	11	41	-30
B37 Conduct supervisory orientations of newly assigned personnel	5	34	-30
C96 Write recommendations for awards or decorations	1	30	-30
D121 Evaluate personnel for training needs	4	32	-28
A2 Assign personnel to work crews	7	32	-25
C76 Evaluate personnel for compliance with performance standards or technical orders	4	29	-25
A10 Determine or establish work priorities	22	45	-24
C77 Evaluate personnel for promotion, demotion, reclassification, or special awards	2	25	-23
B52 Interpret policies, directives, or procedures for subordinates	8	30	-22

are also performing all the technical tasks that 3-skill level respondents perform. The major difference between the two groups, as seen in Table 10, is that 5-skill level personnel perform a broader range of tasks, many being supervisory or training tasks.

DAFSC 3E072. Seven-skill level personnel represent 23 percent of the survey sample. Unlike their junior counterparts at the 3- and 5-skill levels, higher percentages of these personnel are working in the Supervisory job (23 percent versus less than 1 percent and 3 percent respectively). However, fairly high percentages of 7-skill level personnel are still working in the Generator Set and Auxiliary Equipment Systems Maintenance and the AAS Maintenance jobs. (See Table 6.) Table 11 lists the most common tasks performed by 7-skill level personnel. Most of these involve supervisory functions. Table 12 shows those tasks which best differentiate the 5- and 7-skill levels. As expected, the key difference is a much greater emphasis on supervisory functions at the 7-skill level.

Summary

Progression in this career ladder follows a normal pattern of highly technical job focus at the lower skill levels, with a broadening into supervision at the 7-skill level. Emphasis is seen in performing primarily the jobs of Generator Set and AAS Maintenance at the 3- and 5-skill levels. Craftsmen at the 7-skill level are beginning to shift to supervision tasks, but a good deal of their job time is still spent in the technical arena. This progression is easily seen in Table 6.

ANALYSIS OF AFMAN 36-2108 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFMAN 36-2108 Specialty Descriptions for Electrical Power Production Specialist and Technician, effective 30 April 1991. These specialty descriptions are intended to provide a broad overview of the duties and responsibilities of each skill level.

The 3- and 5-skill level specialty description is generally accurate in describing the technical jobs of Generator Set Maintenance and AAS Maintenance. The 7-skill level description accurately reflects the added supervisory, directing, and inspection functions.

TABLE 11
REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E072 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=237)
B38 Counsel personnel on personal or military-related matters	84
C93 Write EPRs	82
A10 Determine or establish work priorities	81
A26 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	78
A1 Assign maintenance and repair work	77
C63 Conduct performance feedback worksheet (PFW) evaluation sessions	77
C64 Conduct self-inspections	76
B57 Supervise Electrical Power Production Specialists (AFSC 54252)	74
A2 Assign personnel to work crews	73
A33 Schedule personnel for leaves, passes, or temporary duty (TDY)	72
B37 Conduct supervisory orientations of newly assigned personnel	71
A5 Coordinate maintenance or supply problems with appropriate agencies	71
C96 Write recommendations for awards or decorations	70
A20 Establish performance standards for subordinates	69
A9 Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies	68
A3 Assign sponsors for newly assigned personnel	67
A21 Establish procedures for accountability of equipment, tools, or supplies	67
A31 Plan or schedule work assignments	65
T730 Start or shut down generator sets	65
D121 Evaluate personnel for training needs	64
D122 Evaluate progress of trainees	64
T726 Perform walk around inspections of generator sets during operation	64
A19 Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)	63
A7 Determine electrical generating requirements	63
D100 Assign on-the-job training (OJT) trainers or supervisors	63
G258 Perform or practice cardiopulmonary resuscitation (CPR)	63
A8 Determine maintenance requirements for equipment or facilities	62
C76 Evaluate personnel for compliance with performance standards or technical orders	62
B52 Interpret policies, directives, or procedures for subordinates	62
D126 Maintain training records, charts, graphs, or files	62

TABLE 12

**TASKS WHICH BEST DIFFERENTIATE BETWEEN
DAFSC 3E052 AND DAFSC 3E072 PERSONNEL
(PERCENT MEMBERS PERFORMING)**

TASKS	3E052 (N=532)		3E072 (N=237)		DIFFERENCE
	3E052 (N=532)	3E072 (N=237)	3E052 (N=532)	3E072 (N=237)	
L443 Change lubricating oil	76	45	76	45	31
G256 Perform general cleaning of electrical power production equipment	80	50	80	50	30
M489 Replace fuel filters or strainers	69	40	69	40	29
L455 Replace lube oil filters or strainers	67	40	67	40	27
G266 Replace batteries	78	50	78	50	27
G255 Perform corrosion control on electrical power production equipment	76	50	76	50	25
G277 Service or charge lead-acid-type batteries	75	50	75	50	25
M470 Inspect or clean fuel filters or strainers	69	45	69	45	24
N511 Add antifreeze to cooling system	74	51	74	51	23
G272 Replace power generating equipment drive belts	60	38	60	38	22
G235 Inspect power generating equipment drive belts	70	49	70	49	22
L443 Fill lubricating systems	64	42	64	42	22
T725 Perform standby engine runups	69	49	69	49	21
M485 Prime or bleed fuel systems	63	43	63	43	21
A33 Schedule personnel for leaves, passes, or temporary duty (TDY)	23	72	23	72	-49
A3 Assign sponsors for newly assigned personnel	19	67	19	67	-48
H58 Supervise Electrical Power Production Technicians (AFSC 54272)	6	52	6	52	-46
D100 Assign on-the-job training (OJT) trainers or supervisors	18	63	18	63	-45
C64 Conduct self-inspections	32	76	32	76	-44
A3 Assign personnel to work crews	32	73	32	73	-41
C96 Write recommendations for awards or decorations	30	70	30	70	-40
A34 Write job descriptions	14	54	14	54	-40
A5 Coordinate maintenance or supply problems with appropriate agencies	33	71	33	71	-38
A21 Establish procedures for accountability of equipment, tools, or supplies	29	67	29	67	-38
A23 Establish work methods, production controls, or inspection procedures	18	56	18	56	-38
B37 Conduct supervisory orientations of newly assigned personnel	34	71	34	71	-37
C69 Evaluate job descriptions	9	46	9	46	-37
C65 Conduct performance feedback worksheet (PFW) evaluation sessions	41	78	41	78	-37
A26 Participate in meetings, such as staff meetings, briefings, conferences, or workshops, other than conducting	21	58	21	58	-37
A16 Develop self-inspection program checklists	30	65	30	65	-36

TRAINING ANALYSIS

Occupational survey data represent one of many sources of information which are used to assist in the development of training programs for career ladder personnel. OSR data useful to training personnel include job descriptions for the various jobs performed within a career ladder, distribution of personnel across career ladder jobs, percentages of personnel performing specific tasks, and percentages of personnel maintaining specific equipment or systems, as well as the difficulty of tasks and TE ratings gathered from senior members of the career ladder.

Training Emphasis and Task Difficulty Data

TE and TD data are secondary factors that can help technical school personnel decide which entry-level training tasks to emphasize. These ratings, based on the judgments of senior career ladder NCOs at operational units, provide training personnel with a rank ordering of those tasks considered important for first-enlistment airman training (TE), and a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors (TE and TD), accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To help training personnel focus on tasks which are most appropriate for entry-level training, an additional factor, the Automated Training Indicator (ATI), was assigned to each task in the inventory. A computer program considered percent first-enlistment members performing, TE and TD ratings, and the Course Training Decision Logic Table found in AETCR 52-22, Atch 1, and assigned an ATI value to each task corresponding to the 18 training decisions on the table. The decision table and explanation of ATIs precede the listing of tasks in descending order of ATI in the TRAINING EXTRACT. Training personnel should focus on tasks with an ATI of 18, which suggests these tasks should be in the entry-level course.

Tasks having the highest TE ratings are listed in Table 13. Included for each task are the percentage of first-job and first-enlistment personnel performing and the TD rating. Tasks with the highest TE deal with General Electrical Power Production Activities (Duty G), and Operating and Maintaining Generator Sets (Duty T).

Table 14 lists the tasks having the highest TD ratings. The percentages of first-job, first-enlistment, 5-, and 7-skill level personnel performing, and the TE ratings are also included for each task. The majority of tasks with high difficulty are not performed by high percentages of any group, but one task, Assemble or Disassemble Engines, is performed by at least 20 percent of

TABLE 13

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	PERCENT MEMBERS PERFORMING					
	TNG EMP	1ST JOB	1ST ENL	TSK DIFF		
G241 Interpret wiring or schematic diagrams	6.54	58	61	6.46		
T722 Perform generator set single unit operations	5.94	77	77	3.98		
G258 Perform or practice cardiopulmonary resuscitation (CPR)	5.89	63	65	4.18		
T724 Perform preoperational inspections of generator sets	5.86	78	79	3.75		
G283 Verify phase rotation of generators	5.80	60	62	4.11		
H290 Isolate malfunctions within automatic transfer panels	5.80	26	26	6.71		
T727 Place generator sets on line after power failures	5.71	63	63	4.47		
T723 Perform postoperational inspections of generator sets	5.71	78	79	3.64		
T730 Start or shutdown generator sets	5.69	84	84	3.27		
G277 Service or charge lead-acid-type batteries	5.66	74	77	3.29		
T725 Perform stand-by engine run-ups	5.63	76	76	3.79		
M485 Prime or bleed fuel systems	5.57	59	64	3.21		
I352 Tune up gasoline engines	5.46	34	40	5.21		
T721 Perform generator set emergency shutdown procedures	5.40	34	38	4.16		
K416 Isolate malfunctions within battery chargers	5.37	19	22	5.53		
I336 Replace electric start system components	5.34	33	38	5.24		
T726 Perform walk-around inspections of generator sets during operation	5.34	81	80	3.48		
T711 Connect or disconnect generator set cables	5.31	62	64	4.14		
H292 Perform functional tests of automatic transfer panels	5.31	47	48	4.44		
O553 Test overhead trip devices	5.29	11	12	4.79		

TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)

TD MEAN = 5.00; SD = 1.00

TABLE 13 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS	PERCENT MEMBERS PERFORMING			TSK DIFF		
	TNG EMP	1ST JOB	ENL	1ST	ENL	TSK DIFF
H288	5.29	49	47	4.38		
O535	5.26	16	19	5.23		
T713	5.26	68	68	4.44		
T715	5.23	63	66	4.04		
L440	5.20	81	82	3.08		
V915	5.20	23	28	3.70		
O536	5.17	16	15	5.61		
I298	5.11	25	28	5.30		
I351	5.11	13	17	5.40		
V914	5.11	31	33	5.93		
I349	5.09	27	31	4.92		
L442	5.09	44	48	3.74		
T719	5.09	35	39	4.98		
K400	5.09	44	49	4.07		
T733	5.03	75	70	4.30		
H287	5.03	56	52	4.62		
H294	5.00	30	31	5.30		
P554	5.00	20	24	5.06		
K402	5.00	31	38	4.76		
I318	4.97	37	39	5.82		

TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)
 TD MEAN = 5.00; SD = 1.00

TABLE 14

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	PERCENT MEMBERS PERFORMING						
	TSK DIFF	1ST JOB		1ST ENL		DAFSC 3E052	DAFSC 3E072
		TNG EMP	TNG EMP	TNG EMP	TNG EMP		
S675	7.94	1	1	4	4	4	1.46
S673	7.70	0	0	3	1	1.69	
S672	7.68	1	0	5	4	2.03	
U762	7.66	1	1	2	1	0.46	
U744	7.61	1	0	1	1	0.37	
S670	7.58	0	0	4	5	1.94	
S671	7.55	0	0	4	3	1.83	
U765	7.42	1	1	1	2	0.60	
S674	7.41	0	0	4	3	1.89	
U760	7.36	1	1	3	2	0.60	
U746	7.34	1	1	1	1	0.40	
S676	7.34	1	0	4	3	2.00	
S664	7.33	1	1	3	2	0.80	
U747	7.28	1	2	5	2	0.74	
V844	7.27	4	8	6	1	1.63	
R649	7.25	5	5	5	6	1.69	
U761	7.25	1	0	1	1	0.49	
Rewire switchgear							
Perform depot-level rebuilding of power plant speed-sensing or load-sensing devices							

TD MEAN = 5.00 SD = 1.00
TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)

TABLE 14 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS	TSK DIFF	PERCENT MEMBERS PERFORMING					
		1ST JOB	1ST ENL	DAFSC 3E052	DAFSC 3E072	TNG EMP	
U764	7.24	1	1	3	3	3	1.37
8,000-hour and above							
D112	7.22	1	1	4	10	0.06	
Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSS)							
S667	7.16	1	1	1	0	1.11	
Isolate malfunctions within rotary UPS master control panels							
I301	7.13	20	23	23	11	3.74	
Assemble or disassemble engines							
U741	7.13	2	1	0	0	0.43	
Construct, reconstruct, or modify power plant foundations							
S666	7.09	1	1	1	0	1.14	
Isolate malfunctions within rotary UPS control cubicles							
S668	7.01	1	0	1	0	1.11	
Isolate malfunctions within rotary UPS power supplies							
S677	6.98	1	0	4	3	1.60	
Isolate malfunctions within UPS power switches							
U759	6.95	1	1	2	1	0.71	
Perform depot-level rebuilding of powerplant fuel system components							
S660	6.95	1	1	4	4	1.57	
Align control circuitry of solid-state uninterruptible power systems (SSUPSSs)							
B43	6.95	2	3	9	14	0.34	
Direct operation of maintenance of uninterruptible power systems (UPSSs)							
U745	6.94	1	2	2	2	0.57	
Install or remove alternators for power plants							
V868	6.93	6	9	7	7	2.51	
Replace AAS brake assemblies							

TD MEAN = 5.00 SD = 1.00
 TE MEAN = 2.33; SD = 1.37 (HIGH TE = 3.60)

first-job, first-enlistment and 5-skill level personnel and has a fairly high TE rating. Many of the tasks with high TD values are related to isolating malfunctions and high-level management functions.

Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. For a more detailed explanation of TD and TE ratings, see the Task Factor Administration in the SURVEY METHODOLOGY section of this report.

First-Enlistment Personnel

In this study, there are 317 members in their first enlistment (1-48 months' TAFMS), representing 30 percent of the survey sample. As displayed in Table 15, approximately 93 percent of their duty time is devoted to technical or administrative and supply functions. Figure 2 shows how all first-enlistment personnel are distributed across the jobs identified in the SPECIALTY JOBS section of this report. Of the 11 jobs identified, first-enlistment personnel are found in 7. Of the 317 first-enlistment personnel, 101 members work in the AAS Maintenance job (32 percent), 89 members work in the Generator Set Maintenance job (28 percent), and 63 members work in the Generator Set Maintenance and Mobility Operation job (20 percent). The remaining four, Generator Set and Gas Turbine Maintenance, Generator Set and Auxiliary Equipment Maintenance, Generator Set and Gasoline and Diesel Engine Maintenance, and Gasoline and Diesel Engine Maintenance comprise 2 percent of the first-enlistment personnel.

Table 16 displays commonly performed tasks for first-enlistment personnel. Most involve the routine maintenance of generator sets and electrical power production equipment.

Specialty Training Standard (STS) and Plan of Instruction (POI)

Presently, the STS and POI are being revised. Analysis of both documents will take place at a later date and will be released as an addendum to the OSR.

JOB SATISFACTION ANALYSIS

An examination of responses to the job satisfaction questions can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. The survey booklet included questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions. The responses of the current survey sample were then analyzed by making several

TABLE 15
RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY
FIRST-ENLISTMENT AFSC 3E0X2 PERSONNEL

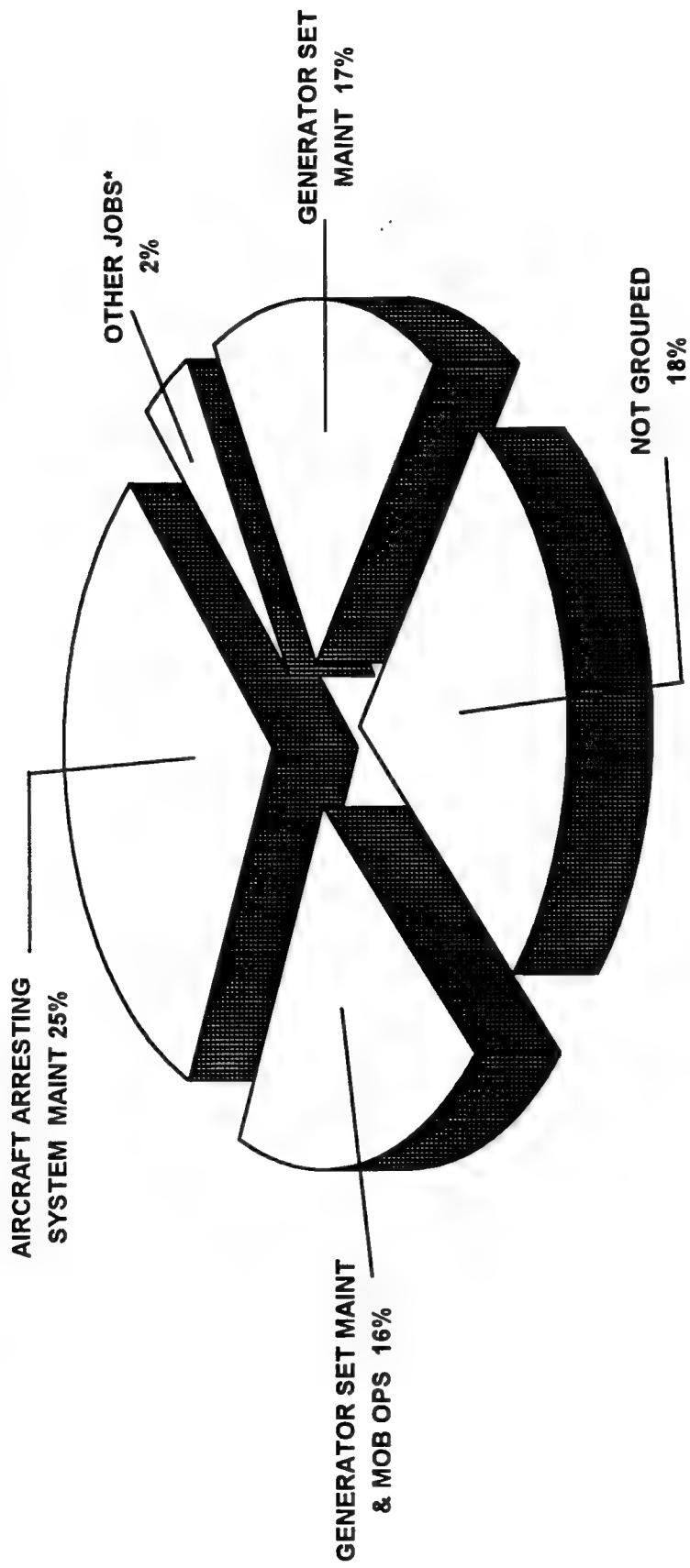
DUTIES	PERCENT TIME SPENT
A ORGANIZING AND PLANNING	3
B DIRECTING AND IMPLEMENTING	1
C INSPECTING AND EVALUATING	2
D TRAINING	1
E PERFORMING GENERAL ADMINISTRATIVE AND SUPPLY ACTIVITIES	5
F PERFORMING WORK INFORMATION MANAGEMENT SYSTEMS (WIMS)	*
G PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	15
H MAINTAINING AUTOMATIC TRANSFER PANELS	3
I MAINTAINING GASOLINE AND DIESEL ENGINES	5
J MAINTAINING GAS TURBINE ENGINES	1
K MAINTAINING ACCESSORY AND AUXILIARY EQUIPMENT SYSTEMS	4
L MAINTAINING LUBRICATING SYSTEMS	4
M MAINTAINING FUEL SYSTEMS	7
N MAINTAINING COOLING SYSTEMS	3
O MAINTAINING GOVERNORS	1
P MAINTAINING INTAKE AND EXHAUST SYSTEMS	2
Q MAINTAINING ALTERNATORS, EXCITERS, AND ELECTRIC MOTOR GENERATORS	1
R MAINTAINING SWITCHGEAR AND ELECTRICAL PROTECTIVE DEVICES	3
S MAINTAINING UNINTERRUPTABLE POWER SYSTEMS	*
T OPERATING AND MAINTAINING GENERATOR SETS	16
U PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*
V MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	16
W PERFORMING MOBILITY OPERATIONS AND CONTINGENCY ACTIVITIES	7
X PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	3

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

Total time spent does not add to 100 percent due to rounding

JOBS PERFORMED BY FIRST-ENLISTMENT AFSC 3E0X2 PERSONNEL



* Other Jobs include Generator Set and Gas Turbine Maintenance, Generator Set and Auxiliary Equipment Systems Maintenance, Gasoline & Diesel Engine Maintenance, and Generator Set & Gas & Diesel Engine

FIGURE 2

TABLE 16
MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT 3E0X2 PERSONNEL

TASKS	PERCENT MEMBERS PERFORMING (N=317)
G256 Perform general cleaning of electrical power production equipment	87
T730 Start or shut down generator sets	84
L440 Change lubricating oil	82
G266 Replace batteries	82
N511 Add antifreeze to cooling systems	82
T726 Perform walk around inspections of generator sets during operation	80
T724 Perform preoperational inspections of generator sets	79
T723 Perform postoperational inspections of generator sets	79
T722 Perform generator set single unit operations	77
G277 Service or charge lead-acid-type batteries	77
T725 Perform stand-by engine run-ups	76
T728 Refuel generator sets or storage tanks	76
G255 Perform corrosion control on electrical power production equipment	75
G235 Inspect power generation equipment drive belts	75
T713 Interpret meter readings	68
L443 Fill lubrication systems	67
L455 Replace lube oil filters or strainers	67
M489 Replace fuel filters or strainers	67
T715 Monitor or adjust engine controls during operation	66
G258 Perform or practice cardiopulmonary resuscitation (CPR)	65
T711 Connect or disconnect generator set cables	64
M485 Prime or bleed fuel systems	64
T727 Place generator sets on line after power failures	63
G226 Adjust power generating equipment drive belts	63
G283 Verify phase rotation of generators	62
N517 Drain, flush, or clean cooling systems	61
G272 Replace power generating equipment drive belts	61
G241 Interpret wiring or schematic diagrams	61
M467 Drain water from fuel system components or items	60
G281 Set up or remove portable generators at remote locations	60
G237 Install electrical grounds	58
P561 Inspect or clean air intake filters or cleaners	58
M466 Drain fuel tanks	57
G257 Perform operator maintenance on vehicles	56
M481 Maintain fuel levels in storage tanks	56
T709 Analyze meter readings for load requirements	55
G234 Fabricate replacement gaskets	54
K410 Inspect or clean battery chargers	53
W939 Fire weapons such as 9mm caliber pistols or M-16 rifles	53
H287 Inspect automatic transfer panel components	52
P566 Replace air intake filters or cleaners	52

comparisons: (1) among TAFMS groups of the Electrical Power Production career ladder and a comparative sample of personnel from other Direct Support career ladders surveyed in 1993 (AFSCs 1T1X1, 2R0X1, and 2R1X1); (2) between current and previous survey experience groups; and (3) across specialty groups identified in the SPECIALTY JOBS section of the report.

Table 17 compares first-enlistment (1-48 months' TAFMS), second-enlistment (49-96 months' TAFMS), and career (97+ months' TAFMS) group data to corresponding enlistment groups from other Direct Support AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 3E0X2 personnel compares with similar Air Force specialties. Electrical Power Production personnel reported very similar job satisfaction to members of the comparative sample. Overall, satisfaction for all three TAFMS groups in AFSC 3E0X2 is fairly high, with no serious satisfaction problems noted.

Comparison of job satisfaction indicator responses of the current survey TAFMS groups to TAFMS groups in the AFSC 542X2 1985 survey (see Table 18) indicates that generally the 1994 responses are higher than the 1985 responses of AFSC 542X2 respondents. Biggest improvements can be seen in the "Perceived Use of Training" and "Expressed Job Interest" categories for the 1-48 month TAFMS group.

An examination of job satisfaction data can also reveal the influences performing certain jobs may have on overall job satisfaction. Table 19 presents job satisfaction data for the major jobs identified in the career ladder structure for AFSC 3E0X2. Perceived use of training for the Gasoline and Diesel Engines job was the lowest for any of the jobs identified.

IMPLICATIONS

From the standpoint of data gathered for this OSR, the AFSC 3E0X2 career ladder reflects a modestly diverse career ladder structure. Almost 62 percent of the members spend their time in a maintenance job, while the remaining members work in a supervisory, mobility, contingency, or a training job. Overall job progression is normal and shows a distinct pattern as one moves from the 3-skill level to the 7-skill level. AFMAN 36-2108 Specialty Descriptions broadly describe the maintenance jobs and tasks being performed. Job satisfaction is fairly high, and no serious problem areas were noted.

TABLE 17

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS			49-96 MONTHS TAFMS			97+ MONTHS TAFMS		
	COMP		SAMPLE (N=200)	COMP		SAMPLE (N=700)	COMP		SAMPLE (N=524) (N=1,514)
	3E0X2 (N=317)	SAMPLE (N=767)		3E0X2 (N=200)	SAMPLE (N=700)		3E0X2 (N=524)		
<u>EXPRESSED JOB INTEREST:</u>									
INTERESTING	75	66	64	72	78	76			
SO-SO	14	22	22	17	14	14			
DULL	11	12	14	11	7	9			
<u>PERCEIVED USE OF TALENTS:</u>									
FAIRLY WELL TO PERFECT	79	70	80	79	86	86			
NONE TO VERY LITTLE	20	30	20	20	14	14			
<u>PERCEIVED USE OF TRAINING:</u>									
FAIRLY WELL TO PERFECT	86	90	80	83	81	79			
NONE TO VERY LITTLE	14	9	20	17	19	21			
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>									
SATISFIED	74	72	69	75	74	75			
NEUTRAL	12	16	14	10	9	8			
DISSATISFIED	14	12	17	15	17	17			
<u>REENLISTMENT INTENTIONS:</u>									
YES OR PROBABLY YES	61	64	70	79	72	70			
NO OR PROBABLY NO	39	36	30	21	6	10			
WILL RETIRE	0	0	0	0	22	19			

NOTE: Columns may not add to 100 percent due to rounding or nonresponse
Comparative data are from AFSCS 1T1X1, 2R0X1, and 2R1X1 surveyed in 1993

TABLE 18

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 3E0X2
 TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDY
 (PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS			49-96 MONTHS TAFMS			97+ MONTHS TAFMS		
	1993 3E0X2 (N=317)	1985 542X2 (N=643)	1993 3E0X2 (N=200)	1993 3E0X2 (N=349)	1985 542X2 (N=524)	1993 3E0X2 (N=877)	1985 542X2 (N=877)	1993 542X2 (N=877)	1985 542X2 (N=877)
<u>EXPRESSED JOB INTEREST:</u>									
INTERESTING	75	65	64	72	78	74	78	74	74
SO-SO	14	21	22	15	14	15	14	15	15
DULL	11	13	14	12	7	10	7	10	10
<u>PERCEIVED USE OF TALENTS:</u>									
FAIRLY WELL TO PERFECT	79	72	80	75	86	83	81	80	83
NONE TO VERY LITTLE	20	28	20	25	14	17	19	20	17
<u>PERCEIVED USE OF TRAINING:</u>									
FAIRLY WELL TO PERFECT	86	77	80	73	81	80	81	80	80
NONE TO VERY LITTLE	14	23	20	27	19	20	19	20	17
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>									
SATISFIED	74	69	69	68	74	73	74	73	73
NEUTRAL	12	13	14	10	9	11	9	11	11
DISSATISFIED	14	17	17	22	17	16	17	16	16
<u>REENLISTMENT INTENTIONS:</u>									
YES OR PROBABLY YES	61	66	70	77	72	80	72	72	80
NO OR PROBABLY NO	39	33	30	22	6	8	6	6	8
WILL RETIRE	0	-	0	1	22	11	22	22	11

* Less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 19

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	GENERATOR SET MAINT (STG060)	GENERATOR SET & MOBILITY (STG157)	GENERATOR SET & GAS TURBINE (STG213)	GENERATOR SET & AUX EQUIP (STG234)	GENERATOR SET & GAS & DIESEL (STG104)	AIRCRAFT ARRESTING SYSTEMS (GRP047)
<u>EXPRESSED JOB INTEREST:</u>						
INTERESTING	67	75	78	79	76	76
SO-SO	19	19	11	14	12	15
DULL	14	6	11	5	12	8
<u>PERCEIVED USE OF TALENTS:</u>						
FAIRLY WELL TO PERFECT	79	89	89	87	81	85
NONE TO VERY LITTLE	21	10	11	13	19	15
<u>PERCEIVED USE OF TRAINING:</u>						
FAIRLY WELL TO PERFECT	86	82	78	85	80	85
NONE TO VERY LITTLE	14	18	22	15	20	15
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>						
SATISFIED	70	74	78	77	74	74
NEUTRAL	9	16	0	8	10	11
DISSATISFIED	20	10	22	14	16	15
<u>REENLISTMENT INTENTIONS:</u>						
YES OR PROBABLY YES	63	72	78	62	78	70
NO OR PROBABLY NO	31	24	22	16	8	22
WILL RETIRE	5	4	0	21	14	8
NO RESPONSE	0	0	0	1	0	0

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

TABLE 19 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

<u>EXPRESSED JOB INTEREST:</u>	MOBILITY AND CONTINGENCY				GASOLINE & DIESEL ENGINE				<u>UPS</u>
	<u>SUPV</u>	<u>TRNG</u>	<u>TRNG</u>	<u>UPS</u>					
<u>PERCEIVED USE OF TALENTS:</u>									
INTERESTING	60	86	70	88	92				
SO-SO	40	11	0	12	0				
DULL	0	3	20	0	8				
<u>PERCEIVED USE OF TRAINING:</u>									
FAIRLY WELL TO PERFECT	90	91	80	88	92				
NONE TO VERY LITTLE	10	8	20	12	8				
<u>SENSE OF ACCOMPLISHMENT FROM JOB:</u>									
SATISFIED	80	81	80	75	92				
NEUTRAL	0	7	0	13	0				
DISSATISFIED	20	12	20	12	8				
<u>REENLISTMENT INTENTIONS:</u>									
YES OR PROBABLY YES	90	67	60	63	50				
NO OR PROBABLY NO	0	1	20	37	25				
WILL RETIRE	10	32	20	0	25				

NOTE: Columns may not add to 100 percent due to rounding or nonresponse

APPENDIX A

REPRESENTATIVE TASKS PERFORMED BY
MEMBERS OF CAREER LADDER JOBS

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TABLE A1
GENERATOR SET MAINTENANCE
(STG060, N=172)

TYPICAL TASKS	PERCENT
T730 Start or shut down generator sets	93
T726 Perform walkaround inspections of generator sets during operation	92
T724 Perform preoperational inspections of generator sets	90
T723 Perform postoperational inspections of generator sets	88
T732 Take or record engine indicator readings	83
G256 Perform general cleaning of electrical power production equipment	81
T725 Perform standby engine runups	80
L440 Change lubricating oil	78
T722 Perform generator set single unit operations	74
T728 Refuel generator sets or storage tanks	74
T727 Place generator sets on line after power failures	71
G277 Service or charge lead-acid-type batteries	70
G266 Replace batteries	69
G255 Perform corrosion control on electrical power production equipment	68
L443 Fill lubrication systems	65
T715 Monitor or adjust engine controls during operation	63
G235 Inspect power generating equipment drive belts	63
T713 Interpret meter readings	60
L455 Replace lube oil filters or strainers	60
G258 Perform or practice cardiopulmonary resuscitation (CPR)	54
G250 Monitor commercial power	52
T716 Monitor or adjust switchgear controls during operation	51
T714 Monitor or adjust associated power systems during operation	50
T733 Test generator sets using load banks	49
T719 Parallel generator sets manually	47
T720 Parallel generator sets with commercial power	47
T709 Analyze meter readings for load requirements	45

TABLE A2
GENERATOR SET MAINTENANCE AND MOBILITY OPERATIONS
(STG157, N=163)

TYPICAL TASKS	PERCENT
T730 Start or shut down generator sets	98
T726 Perform walkaround inspections of generator sets during operation	97
T728 Refuel generator sets or storage tanks	97
G256 Perform general cleaning of electrical power production equipment	96
T733 Test generator sets using load banks	96
T724 Perform preoperational inspections of generator sets	95
T722 Perform generator set single unit operations	95
G255 Perform corrosion control on electrical power production equipment	95
T711 Connect or disconnect generator set cables	95
T723 Perform postoperational inspections of generator sets	94
G235 Inspect power generating equipment drive belts	90
G277 Service or charge lead-acid-type batteries	90
G237 Install electrical grounds	87
T732 Take or record engine indicator readings	85
T725 Perform standby engine runups	85
T715 Monitor or adjust engine controls during operation	85
G226 Adjust power generating equipment drive belts	83
T713 Interpret meter readings	83
G272 Replace power generating equipment drive belts	83
T712 Determine fuel requirements for generator set operations	82
W939 Fire weapons, such as 9mm caliber pistols or M-16 rifles	74
W1001 Tear down, inspect, clean, and reassemble weapons, such as 9mm caliber pistols or M-16 rifles	70
W935 Erect tents	65
W994 Prepare personnel clothing for deployment	61
W946 Install tent lighting	60
W930 Don or doff chemical personal protective clothing	56

TABLE A3
GENERATOR SET AND GAS TURBINE MAINTENANCE
(STG213, N=9)

TYPICAL TASKS	PERCENT
G256 Perform general cleaning of electrical power production equipment	100
T733 Test generator sets using load banks	100
T730 Start or shut down generator sets	100
T711 Connect or disconnect generator set cables	100
T715 Monitor or adjust engine controls during operation	100
T728 Refuel generator sets or storage tanks	100
J357 Calibrate Solar 750 kw gas turbine engine speed monitors	100
J378 Perform postoperational inspections of gas turbine engines	100
J396 Test Solar 750 kw gas turbine exhaust temperature monitors	100
J389 Replace gas turbine engine starting system components	100
J386 Replace gas turbine engine ignitors	100
T732 Take or record engine indicator readings	89
T722 Perform generator set single unit operations	89
T719 Parallel generator sets manually	89
J379 Perform preoperational inspections of gas turbine engines	89
T724 Perform preoperational inspections of generator sets	89
T726 Perform walkaround inspections of generator sets during operation	89
T723 Perform postoperational inspections of generator sets	89
J358 Calibrate Solar 750 kw gas turbine exhaust temperature monitors	89
J359 Calibrate Solar 750 kw gas turbine temperature monitors, other than gas turbine exhaust temperature monitors	89
J395 Test Solar 750 kw gas turbine engine speed monitors	89
J394 Test Solar 750 kw gas turbine control system circuits	89
J356 Calibrate Solar 750 kw gas turbine control system circuits	89
J363 Clean gas turbine intake air systems	89
J374 Isolate malfunctions within gas turbine engine control circuits	89

TABLE A4
GENERATOR SET AND AUXILIARY EQUIPMENT MAINTENANCE
(STG234, N=111)

TYPICAL TASKS	PERCENT
T722 Perform generator set single unit operations	98
T726 Perform walkaround inspections of generator sets during operation	97
T730 Start or shut down generator sets	97
T724 Perform preoperational inspections of generator sets	96
T711 Connect or disconnect generator set cables	96
T723 Perform postoperational inspections of generator sets	95
T728 Refuel generator sets or storage tanks	95
T733 Test generator sets using load banks	93
T713 Interpret meter readings	92
T725 Perform standby engine runups	89
T712 Determine fuel requirements for generator set operations	89
T715 Monitor or adjust engine controls during operation	89
K400 Adjust battery chargers	89
T727 Place generator sets on line after power failures	86
T709 Analyze meter readings for load requirements	86
K410 Inspect or clean battery charges	76
K426 Replace battery charger components or units	70
K402 Adjust voltage regulators	61
K432 Replace load bank components	61
K416 Isolate malfunctions within battery charges	60

TABLE A5
GENERATOR SET AND GAS AND DIESEL ENGINE MAINTENANCE
(STG104, N=74)

TYPICAL TASKS	PERCENT
T726 Perform walkaround inspections of generator sets during operation	92
T730 Start or shut down generator sets	91
T724 Perform preoperational inspections of generator sets	88
T723 Perform postoperational inspections of generator sets	88
I313 Inspect engine safety circuits or protective devices	84
T713 Interpret meter readings	81
T732 Take or record engine indicator readings	80
T716 Monitor or adjust switchgear controls during operation	80
T715 Monitor or adjust engine controls during operation	78
T728 Refuel generator sets or storage tanks	77
I308 Inspect crankshafts	76
T722 Perform generator set single unit operations	74
I338 Replace engine seals or gaskets	73
I298 Adjust engine safety circuits or protective devices	73
I297 Adjust air start system components	70
I319 Isolate malfunctions within engine safety circuits or protective devices	69
I311 Inspect engine blocks	65
I307 Inspect camshafts	65
I317 Isolate malfunctions within air start systems	65
I348 Take or record firing or compression readings	64
I312 Inspect engine crankcases	64
I316 Inspect valves and valve spring assemblies	61
I329 Replace air start system components	61

TABLE A6
AIRCRAFT ARRESTING SYSTEMS MAINTENANCE
(GRP047, N=264)

TYPICAL TASKS	PERCENT
V809 Inspect AAS tape connector wear	100
V810 Inspect AAS tape stack heights	97
V778 Adjust AAS cam zero indexes	96
V793 Crop AAS tapes	95
V787 Bleed AAS hydraulic systems	94
V786 Attach or install AAS hook cables or pendants	94
V807 Inspect AAS nitrogen systems	93
V777 Adjust AAS cam control valve clearances	93
V815 Install AAS hook cables	92
V865 Refill AAS nitrogen systems	92
V799 Fill AAS hydraulic systems	91
V814 Inspect runway surface beneath AAS hook cables	91
V863 Recharge AAS accumulators	90
V883 Replace AAS hook cable support discs	89
V864 Reeve AAS tape connectors	89
V796 Determine replacement of AAS hook cables	88
V808 Inspect AAS phenolic pads	88
V779 Adjust AAS drive chains	88
V798 Determine replacement of AAS tapes using regime charts	87
V869 Replace AAS cables	87
V847 Perform after-arrestment inspections of AASs	86
V884 Replace AAS hook cables or pendants	86
V812 Inspect or clean AAS fluid couplings	86
V859 Position AAS hook cable supports	85
V914 Synchronize AASs	85
V804 Inspect AAS fair-lead tubes for tape twist	85
V853 Perform periodic maintenance inspections of AASs	84
V781 Adjust AAS reel side plates	83

TABLE A7
MOBILITY AND CONTINGENCY OPERATIONS
(STG186, N=10)

TYPICAL TASKS	PERCENT
W992 Prepare equipment for deployments	100
W959 Operate M-series vehicles for contingency exercises or operations	100
W964 Palletize contingency equipment	100
W920 Conduct mobility exercise or deployment site surveys	100
B38 Counsel personnel on personal or military-related matters	100
C63 Conduct performance feedback worksheet (PFW) evaluation sessions	100
W963 Pack contingency equipment	90
W961 Operate refueling vehicles for contingency exercises or operations	90
W965 Participate in convoy exercises	90
A10 Determine or establish work priorities	90
W994 Prepare personal clothing for deployments	90
C93 Write EPRs	90
A26 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	90
C88 Perform quality control inspections of electrical power production equipment	90
W958 Operate forklifts for contingency exercises or operations	90
W988 Practice communications security (COMSEC) during contingency exercises or operations	90
W943 Inspect packed or palletized mobility or contingency equipment prior to transport	90
A33 Schedule personnel for leaves, passes, or temporary duty (TDY)	90
D100 Assign on-the-job training (OJT) trainers or supervisors	90
W1003 Transport mobility or contingency equipment to or from deployed locations	80

TABLE A8

SUPERVISION
(STG098, N=73)

TYPICAL TASKS	PERCENT
B38 Counsel personnel on personal or military-related matters	100
C93 Write EPRs	97
A20 Establish performance standards for subordinates	96
C63 Conduct performance feedback worksheet (PFW) evaluation sessions	92
A10 Determine or establish work priorities	90
B57 Supervise Electrical Power Production Specialists (AFSC 54252)	90
B37 Conduct supervisory orientations of newly assigned personnel	90
C96 Write recommendations for awards or decorations	89
A2 Assign personnel to work crews	88
A33 Schedule personnel for leaves, passes, or temporary duty (TDY)	88
C64 Conduct self-inspections	86
A1 Assign maintenance and repair work	84
D100 Assign on-the-job training (OJT) trainers or supervisors	84
A26 Participate in meetings, such as staff meetings, briefings, conferences, or workshops	82
A24 Establish work schedules	82
C76 Evaluate personnel for compliance with performance standards or technical orders	82
A3 Assign sponsors for newly assigned personnel	82
A9 Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies	81
B52 Interpret policies, directives, or procedures for subordinates	81
A19 Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)	79

TABLE A9

TRAINING
(STG081, N=5)

TYPICAL TASKS	PERCENT
D101 Brief unit staff personnel on training programs or matters	80
D99 Administer or score tests	80
D122 Evaluate progress of trainees	80
D121 Evaluate personnel for training needs	80
D138 Write test questions	80
D137 Write or revise training materials	80
D134 Schedule personnel for training	80
D139 Write training reports	80
D128 Plan safety or security training	80
D136 Track effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or qualification training	80
D127 Plan or schedule training, such as OJT, qualification training, or ancillary training	80
D126 Maintain training records, charts, graphs, or files	80
D123 Evaluate training materials or aids	60
D106 Conduct safety or security training	60
D108 Construct or develop training aids	60
D109 Counsel trainees on training progress	60
D124 Evaluate training methods or techniques	60
D131 Prepare specialty training packages (STPs) or quality training packages (QTPs)	60
D133 Procure training aids, space, or equipment	60
D107 Conduct training conferences or briefings	60
D130 Prepare lesson plans	60

TABLE A10
GASOLINE AND DIESEL ENGINE MAINTENANCE
(STG120, N=8)

TYPICAL TASKS	PERCENT
I301 Assemble or disassemble engines	100
I323 Measure crankshaft end-thrust clearances	100
I307 Inspect camshafts	100
I310 Inspect cylinder liners	100
I308 Inspect crankshafts	100
I311 Inspect engine blocks	100
I312 Inspect engine crankcases	100
I309 Inspect cylinder heads	100
I325 Measure cylinder liners	100
I321 Measure connecting rod and main bearing clearances	100
I302 Clean cylinder liners	88
I334 Replace cylinder heads	88
I324 Measure crankshaft wear	88
I303 Clean engine blocks	88
I314 Inspect pistons	88
I304 Clean engine crankcases	88
I313 Inspect engine safety circuits or protective devices	88
I335 Replace cylinder liners	88
I322 Measure connecting rod bolts for stretch	88
I341 Replace piston rings	88
I338 Replace engine seals or gaskets	75
I330 Replace camshafts	75
I326 Measure gear backlash	75
I332 Replace connecting rod bearings	75
I342 Replace pistons	75
I343 Replace rocker arm bushings	75
I348 Take or record firing or compression readings	75

TABLE A11
UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE
(STG153, N=12)

TYPICAL TASKS	PERCENT
S684 Perform single unit operations of SSUPSs	100
S682 Perform periodic maintenance on SSUPSs	100
S700 Shut down or start up SSUPSs	100
S683 Perform PMIs of SSUPS battery banks	100
S702 Test SSUPS batteries	100
S672 Isolate malfunctions within SSUPS inverters	100
S670 Isolate malfunctions within SSUPS control circuits	100
S675 Isolate malfunctions within SSUPS printed circuit boards	100
S676 Isolate malfunctions within SSUPS rectifier/chargers	100
S669 Isolate malfunctions within SSUPS battery banks	100
S677 Isolate malfunctions within SSUPS static switches	100
S660 Align control circuitry of solid-state uninterruptible power systems (SSUPSs)	92
S690 Replace SCRs in SSUPSs	92
B43 Direct operation or maintenance of uninterruptible power systems (UPSs)	92
S671 Isolate malfunctions within SSUPS filter bank components	92
S704 Transfer SSUPS bypass to maintenance bypass	92
S674 Isolate malfunctions within SSUPS power supplies	92
S703 Test SSUPSs using load banks	83
S692 Replace SSUPS control circuit components	83
S696 Replace SSUPS printed circuit boards	83
S695 Replace SSUPS printed circuit board components	83
S679 Perform inspections of SSUPS battery banks, other than PMIs	75
S705 Transfer maintenance bypass to SSUPS bypass	75
S673 Isolate malfunctions within SSUPS parallel cabinets	75
S701 Solder or desolder SSUPS control circuit wiring	75
S708 Transfer to SSUPSs, other than bypass	67
S691 Replace SSUPS capacitor bank components	67
S680 Perform parallel operations of SSUPSs	67
S693 Replace SSUPS filter bank components	67

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APPENDIX B
LISTING OF MODULES AND TASK STATEMENTS

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These Task Modules (TMs) were developed in order to organize and summarize the extensive task information for this specialty. The TMs were derived by statistical clustering of the tasks in terms of which tasks are performed by the same incumbents. For example, if an individual performs one Transfer Panel task, the probability is very high that he or she also will perform other Transfer Panel tasks. Thus, the group of Transfer Panel tasks can be considered a "natural group" of associated or related tasks (see TM 0004 below). The statistical clustering generally approximates these "natural groupings."

The title of each TM is our best estimate as to the generic subject content of the group of tasks. The TMs are useful for organizing the task data into meaningful units and as a way to concisely summarize the extensive job data. However, TMs are only one way to organize the information. Other strategies may also be valid.

0001 Generator Sets

- | | | |
|----|------|--|
| 1 | G235 | Inspect power generating equipment drive belts |
| 2 | G241 | Interpret wiring or schematic diagrams |
| 3 | G255 | Perform corrosion control on electrical power production equipment |
| 4 | G256 | Perform general cleaning of electrical power production equipment |
| 5 | G266 | Replace batteries |
| 6 | G277 | Service or charge lead-acid-type batteries |
| 7 | L440 | Change lubricating oil |
| 8 | L443 | Fill lubrication systems |
| 9 | L455 | Replace lube oil filters or strainers |
| 10 | M470 | Inspect or clean fuel filters or strainers |
| 11 | M481 | Maintain fuel levels in storage tanks |
| 12 | M485 | Prime or bleed fuel systems |
| 13 | M489 | Replace fuel filters or strainers |
| 14 | N511 | Add antifreeze to cooling systems |
| 15 | R639 | Replace fuses |
| 16 | T709 | Analyze meter readings for load requirements |
| 17 | T711 | Connect or disconnect generator set cables |
| 18 | T713 | Interpret meter readings |
| 19 | T714 | Monitor or adjust associated power systems during operation |
| 20 | T715 | Monitor or adjust engine controls during operation |
| 21 | T722 | Perform generator set single unit operations |
| 22 | T723 | Perform postoperational inspections of generator sets |
| 23 | T724 | Perform preoperational inspections of generator sets |
| 24 | T725 | Perform standby engine runups |
| 25 | T726 | Perform walkaround inspections of generator sets during operation |
| 26 | T727 | Place generator sets on line after power failures |
| 27 | T728 | Refuel generator sets or storage tanks |
| 28 | T730 | Start or shut down generator sets |
| 29 | T732 | Take or record engine indicator readings |
| 30 | T733 | Test generator sets using load banks |

0002 Lighting Equipment

- 1 G242 Maintain emergency lighting equipment
 - 2 G247 Maintain portable lighting equipment
 - 3 G262 Position emergency lighting equipment
 - 4 G263 Position portable lighting equipment
-

0003 Fuel Systems

- 1 M473 Inspect or clean hand-priming pumps
 - 2 M474 Install in-line shutoff valves
 - 3 M475 Isolate malfunctions within automatic fuel transfer systems
 - 4 M492 Replace fuel tank floats
 - 5 M493 Replace fuel tanks
 - 6 M494 Replace fuel transfer pumps
-

0004 Transfer Panels

- 1 H284 Adjust automatic transfer panel components
 - 2 H286 Determine compatibility between automatic transfer panels and generator sets
 - 3 H289 Install automatic transfer panels
 - 4 H290 Isolate malfunctions within automatic transfer panels
 - 5 H291 Modify generator starting systems for compatibility with automatic transfer panels
 - 6 H293 Remove, replace, or reinstall automatic transfer panels
 - 7 H294 Replace automatic transfer panel components
 - 8 H295 Rewire automatic transfer panels
 - 9 H296 Transfer commercial power to bypass automatic transfer panels
-

0005 Mobility and Contingency

- 1 W929 Dig trenches
- 2 W930 Don or doff chemical warfare personal protective clothing
- 3 W933 Erect camouflage nettings
- 4 W935 Erect tents
- 5 W936 Establish blackout procedures
- 6 W939 Fire weapons, such as 9mm caliber pistols or M-16 rifles
- 7 W940 Identify chemical warfare agents
- 8 W942 Inspect mobility bags or kits
- 9 W943 Inspect packed or palletized mobility or contingency equipment prior to transport
- 10 W946 Install tent lighting
- 11 W955 Operate cargo trucks for contingency exercises or operations
- 12 W956 Operate chemical warfare personnel protective equipment
- 13 W958 Operate forklifts for contingency exercises or operations
- 14 W959 Operate M-series vehicles for contingency exercises or operations
- 15 W960 Operate portable radios
- 16 W961 Operate refueling vehicles for contingency exercises or operations
- 17 W962 Operate tent heaters
- 18 W963 Pack contingency equipment

0005 Mobility and Contingency (Continued)

- 19 W964 Palletize contingency equipment
20 W965 Participate in convoy exercises
21 W968 Perform camp cantonment construction techniques
22 W969 Perform cover and concealment techniques for work party security
23 W973 Perform decontamination procedures for chemical warfare agents
24 W975 Perform explosive ordnance reconnaissance
25 W976 Perform first aid lifesaving techniques
26 W978 Perform military field sanitation techniques
27 W979 Perform personal hygiene techniques under field conditions
28 W983 Perform site security
29 W988 Practice communications security (COMSEC) during contingency exercises or operations
30 W989 Practice convoy techniques for work party security
31 W990 Practice operations security (OPSEC) during contingency exercises or operations
32 W991 Practice self-protection from extreme weather
33 W992 Prepare equipment for deployments
34 W994 Prepare personal clothing for deployments
35 W998 Set up or tear down shelters
36 W1001 Tear down, inspect, clean, and reassemble weapons, such as 9mm caliber pistols or M-16 rifles
37 W1003 Transport mobility or contingency equipment to or from deployed locations
-

0006 Protective Clothing and Equipment

- 1 X1010 Clean personnel protective equipment
2 X1011 Clean protective clothing
3 X1015 Inspect condition and cleanliness of personal safety equipment
4 X1016 Inspect condition and cleanliness of protective clothing
5 X1019 Inspect emergency showers
6 X1022 Inspect permanently-installed emergency eyewashers
7 X1028 Replace personal safety equipment components, such as respirators, face shields, or ear protectors
-

0007 Safety and Environmental

- 1 E178 Monitor hazardous materials programs
2 X1005 Annotate master log books to document start and fill dates on hazardous waste drums
3 X1010 Clean personnel protective equipment
4 X1011 Clean protective clothing
5 X1013 Dispose of hazardous waste materials
6 X1014 Fill portable emergency eyewashers
7 X1015 Inspect condition and cleanliness of personal safety equipment
8 X1016 Inspect condition and cleanliness of protective clothing
9 X1019 Inspect emergency showers
10 X1020 Inspect grounding of hazardous waste drums or containers
11 X1021 Inspect markings or decals on waste or acid drums

0007 Safety and Environmental (Continued)

- 12 X1022 Inspect permanently installed emergency eyewashers
 - 13 X1023 Inspect portable emergency eyewashers
 - 14 X1024 Inspect stored hazardous waste materials
 - 15 X1025 Maintain hazardous waste documentation records or log books
 - 16 X1026 Maintain hazardous waste spill kits
 - 17 X1028 Replace personal safety equipment components, such as respirators, face shields, or ear protectors
 - 18 X1030 Store hazardous waste materials
 - 19 X1032 Transport hazardous waste materials
-

0008 Hazardous Waste

- 1 E178 Monitor hazardous materials programs
 - 2 X1005 Annotate master log books to document start and fill dates on hazardous waste drums
 - 3 X1013 Dispose of hazardous waste materials
 - 4 X1020 Inspect grounding of hazardous waste drums or containers
 - 5 X1021 Inspect markings or decals on waste or acid drums
 - 6 X1024 Inspect stored hazardous waste materials
 - 7 X1025 Maintain hazardous waste documentation records or log books
 - 8 X1026 Maintain hazardous waste spill kits
 - 9 X1030 Store hazardous waste materials
 - 10 X1032 Transport hazardous waste materials
-

0009 Compressors

- 1 K404 Clean air compressor filters, strainers, or breathers
 - 2 K407 Inspect air compressor components
 - 3 K409 Inspect or clean air compressor relief valves
 - 4 K413 Inspect or clean electric motors
 - 5 K415 Inspect power plant air distribution systems
 - 6 K419 Lubricate electric motors
 - 7 K423 Replace air compressor filters, strainers, or breathers
 - 8 O537 Change governor oil
-

0010 First Line Supervision

- 1 A1 Assign maintenance and repair work
- 2 A2 Assign personnel to work crews
- 3 A3 Assign sponsors for newly assigned personnel
- 4 A5 Coordinate maintenance or supply problems with appropriate agencies
- 5 A6 Coordinate power transfers with using agencies
- 6 A7 Determine electrical generating requirements
- 7 A8 Determine maintenance requirements for equipment or facilities
- 8 A9 Determine or establish resource requirements, such as personnel, space, equipment, tools, or supplies
- 9 A10 Determine or establish work priorities

0010 First Line Supervision (Continued)

- 10 A11 Determine replacement or reuse of engine components
11 A12 Determine replacement or reuse of generator sets
12 A13 Develop equipment utilization or maintenance schedules
13 A16 Develop self-inspection program checklists
14 A19 Establish organizational policies, operating instructions (OIs), or standard operating procedures (SOPs)
15 A20 Establish performance standards for subordinates
16 A21 Establish procedures for accountability of equipment, tools, or supplies
17 A23 Establish work methods, production controls, or inspection procedures
18 A24 Establish work schedules
19 A26 Participate in meetings, such as staff meetings, briefings, conferences, or workshops
20 A30 Plan or schedule inspections or maintenance of electrical power production systems
21 A31 Plan or schedule work assignments
22 A33 Schedule personnel for leaves, passes, or temporary duty (TDY)
23 B35 Adjust daily maintenance plans to meet operational commitments
24 B37 Conduct supervisory orientations of newly assigned personnel
25 B38 Counsel personnel on personal or military-related matters
26 B48 Implement work methods, production controls, or inspection procedures
27 B49 Initiate actions required due to substandard performance of personnel
28 B52 Interpret policies, directives, or procedures for subordinates
29 B56 Supervise Apprentice Electrical Power Production Specialists (AFSC 54232)
30 B57 Supervise Electrical Power Production Specialists (AFSC 54252)
31 C60 Analyze maintenance or inspection reports
32 C61 Analyze workload requirements
33 C63 Conduct performance feedback worksheet (PFW) evaluation sessions
34 C64 Conduct self-inspections
35 C73 Evaluate maintenance of equipment, tools, supplies, or workspace
36 C76 Evaluate personnel for compliance with performance standards or technical orders
37 C77 Evaluate personnel for promotion, demotion, reclassification, or special awards
38 C93 Write EPRs
39 C96 Write recommendations for awards or decorations
40 D100 Assign on-the-job training (OJT) trainers or supervisors
41 D104 Conduct OJT
42 D109 Counsel trainees on training progress
43 D121 Evaluate personnel for training needs
44 D122 Evaluate progress of trainees
45 D126 Maintain training records, charts, graphs, or files
-

0011 OJT Training

- 1 D110 Determine training requirements, such as OJT or resident course training requirements
2 D115 Direct or implement training programs
3 D127 Plan or schedule training, such as OJT, qualification training, or ancillary training

0011 OJT Training (Continued)

- 4 D129 Prepare job qualification standards (JQSs)
5 D134 Schedule personnel for training
6 D136 Track effectiveness of training, such as career knowledge upgrade, job proficiency upgrade, or qualification training
-

0012 Supply and Administration

- 1 A18 Establish benchstock levels
2 E142 Coordinate obtaining parts with base supply
3 E146 Establish requirements for equipment, tools, or supplies
4 E147 Establish supply requirements
5 E151 Evaluate serviceability of equipment, tools, or supplies
6 E152 Evaluate supply problems
7 E156 Inspect equipment, tools, or supplies, other than CTKs
8 E158 Inventory equipment, tools, or supplies, other than CTKs
9 E162 Maintain benchstock levels
10 E169 Maintain organizational equipment or supply records
11 E173 Maintain property custody authority/custody receipt listings (CA/CRLs)
12 E184 Prepare requests for parts
13 E185 Prepare requisitions for equipment or supplies
14 E186 Prepare requisitions for local purchase of supply items
15 E189 Research microfiche files for supply requisition data
16 E190 Research or verify status of materials
17 E191 Research technical orders to identify components or items of equipment
18 E192 Review CA/CRLs
19 E196 Turn in equipment, tools, or supplies
20 E199 Validate supply transaction listings, such as D04, D18, or D19
21 E202 Write letters of justification for supply-related matters
-

0013 Supervision and Management

- 1 A4 Coordinate host-tenant service agreements with appropriate agencies
2 A14 Develop inputs to mobility, disaster preparedness, or unit emergency or alert plans
3 A15 Develop organizational or functional charts
4 A17 Draft budget requirements
5 A22 Establish special parts levels for critical facilities
6 A25 Forecast equipment requirements for local electrical power production facilities
7 A29 Plan or prepare briefings
8 A34 Write job descriptions
9 B36 Conduct staff meetings or briefings
10 B39 Direct contingency or tactical team activities
11 B44 Draft recommendations for policy changes in personnel or equipment
12 B45 Implement cost-reduction programs
13 B47 Implement suggestion programs
14 B50 Initiate personnel action requests
15 B53 Maintain or update contingency plans

0013 Supervision and Management (Continued)

- 16 B55 Supervise civilian personnel
 - 17 B58 Supervise Electrical Power Production Technicians (AFSC 54272)
 - 18 C65 Evaluate budget requirements
 - 19 C69 Evaluate job descriptions
 - 20 C74 Evaluate mobility, disaster preparedness, or unit emergency or alert plans
 - 21 C78 Evaluate procedures for storage, inventory, or inspection of property items
 - 22 C80 Evaluate suggestions
 - 23 C84 Indorse enlisted performance reports (EPRs)
 - 24 C97 Write replies to inspection reports
 - 25 D135 Select personnel for specialized training
-

0014 Supply

- 1 E155 Inspect consolidated tool kits (CTKs)
 - 2 E157 Inventory CTKs
 - 3 E159 Issue or log turn-ins of CTKs
 - 4 E160 Issue or log turn-ins of equipment, tools, or supplies, other than CTKs
 - 5 E165 Maintain due-in-from-maintenance (DIFM) lists
 - 6 E181 Prepare lists of parts received
 - 7 E187 Process DIFM items
 - 8 E197 Validate DIFM transaction rosters
 - 9 E198 Validate special supply levels, such as barrier repair parts or AAS brakes
-

0015 Aircraft Arresting Systems

- 1 C87 Perform quality control inspections of aircraft arresting systems (AASs)
- 2 D102 Conduct AAS proficiency training
- 3 D103 Conduct fire department training on AASs
- 4 E177 Make entries on reports of aircraft arresting system (AAS) contacts
- 5 V776 Adjust AAS breakaway tensions
- 6 V777 Adjust AAS cam control valve clearances
- 7 V778 Adjust AAS cam zero indexes
- 8 V779 Adjust AAS drive chains
- 9 V780 Adjust AAS nets or webbings
- 10 V781 Adjust AAS reel side plates
- 11 V782 Adjust AAS tape stack heights
- 12 V784 Align AAS nets or webbings with stanchions
- 13 V785 Assemble or disassemble AAS sheaves
- 14 V786 Attach or install AAS hook cables or pendants
- 15 V787 Bleed AAS hydraulic systems
- 16 V788 Brief pilots on AAS procedures
- 17 V789 Center AAS clutch accumulator pistons
- 18 V790 Change oil in AAS fluid couplings
- 19 V791 Clear AAS water drains
- 20 V792 Coordinate reconditioning of runway surface beneath AAS hook cables with appropriate agencies

0015 Aircraft Arresting Systems (Continued)

- 21 V793 Crop AAS tapes
22 V794 Determine ethylene glycol and water mixtures for AASs
23 V795 Determine heater power settings for AASs
24 V796 Determine replacement of AAS hook cables
25 V797 Determine replacement of AAS nets or webbings
26 V798 Determine replacement of AAS tapes using regime charts
27 V799 Fill AAS hydraulic systems
28 V800 Inspect AAS air lines for leaks
29 V801 Inspect AAS coolant tank fluid levels
30 V802 Inspect AAS exhaust fans
31 V803 Inspect AAS fair-lead beams for tape twist
32 V804 Inspect AAS fair-lead tubes for tape twist
33 V805 Inspect AAS hydraulic power units (HPUs)
34 V806 Inspect AAS J-hook interconnectors
35 V807 Inspect AAS nitrogen systems
36 V808 Inspect AAS phenolic pads
37 V809 Inspect AAS tape connector wear
38 V810 Inspect AAS tape stack heights
39 V811 Inspect or clean AAS fair-lead beam rollers or bearings
40 V812 Inspect or clean AAS fluid couplings
41 V813 Inspect or clean AAS sheave bearings
42 V814 Inspect runway surface beneath AAS hook cables
43 V815 Install AAS hook cables
44 V816 Install MA-1A webbings
45 V817 Install or remove mobile aircraft arresting systems (MAASs)
46 V819 Isolate malfunctions within AAS clutch assemblies
47 V820 Isolate malfunctions within AAS control panel indicator circuits
48 V821 Isolate malfunctions within AAS coolant systems
49 V822 Isolate malfunctions within AAS energy absorber framework
50 V823 Isolate malfunctions within AAS energy absorber hydraulic systems
51 V824 Isolate malfunctions within AAS energy absorber units
52 V825 Isolate malfunctions within AAS energy absorbers
53 V826 Isolate malfunctions within AAS heaters
54 V827 Isolate malfunctions within AAS hydraulic systems
55 V828 Isolate malfunctions within AAS hydraulic trailer systems
56 V829 Isolate malfunctions within AAS limit switches
57 V831 Isolate malfunctions within AAS pneumatic systems
58 V832 Isolate malfunctions within AAS rewind systems
59 V833 Isolate malfunctions within AAS runway control circuits
60 V834 Isolate malfunctions within AAS support box components
61 V835 Isolate malfunctions within AAS tower control circuits
62 V836 Isolate malfunctions within AAS trailer braking systems
63 V837 Isolate malfunctions within AAS trailer suspension systems
64 V838 Lubricate AAS sheave bearings
65 V839 Maintain AAS pit sump pumps
66 V840 Measure AAS B-52 break wear

0015 Aircraft Arresting Systems (Continued)

- 67 V841 Measure AAS bliss break wear
68 V842 Overhaul AAS main stanchions
69 V843 Overhaul AAS tub assemblies
70 V844 Overhaul AASs
71 V845 Perform AAS off-center engagement rewind procedures
72 V846 Perform AAS rewind procedures, other than off-center engagement rewind procedures
73 V847 Perform after-arrestment inspections of AASs
74 V848 Perform after-arrestment rewind procedures of AASs
75 V849 Perform alignment inspections of AASs
76 V850 Perform annual certifications of AASs
77 V851 Perform certifications of AASs, other than annual
78 V852 Perform expeditionary installations of AASs
79 V853 Perform periodic maintenance inspections of AASs
80 V854 Perform permanent installations of AASs
81 V855 Perform pressure checks of AAS hydraulic system relief valves
82 V856 Perform scheduled inspections of AASs
83 V857 Perform semipermanent installations of AASs
84 V858 Perform TCTO modifications of AASs
85 V859 Position AAS hook cable supports
86 V860 Proof load (stretch) AAS tapes
87 V861 Proof test AAS hydraulic systems
88 V862 Raise or lower AAS nets or webbings manually
89 V863 Recharge AAS accumulators
90 V864 Reeve AAS tape connectors
91 V865 Refill AAS nitrogen systems
92 V866 Remove or reinstall BAK-9 aircraft arresting gears
93 V867 Replace AAS automobile tire casings
94 V868 Replace AAS brake assemblies
95 V869 Replace AAS cables
96 V870 Replace AAS clutch assemblies
97 V871 Replace AAS coolant system components
98 V872 Replace AAS energy absorber components
99 V873 Replace AAS energy absorber framework components
100 V874 Replace AAS energy absorber hydraulic system components
101 V875 Replace AAS energy absorber unit components
102 V876 Replace AAS exhaust fans
103 V877 Replace AAS fair-lead beam rollers or bearings
104 V878 Replace AAS fluid couplings
105 V879 Replace AAS gasoline rewind engines
106 V880 Replace AAS gauges
107 V881 Replace AAS gear reducers
108 V882 Replace AAS heater components
109 V883 Replace AAS hook cable support discs
110 V884 Replace AAS hook cables or pendants
111 V885 Replace AAS hydraulic system components
112 V886 Replace AAS net or webbing assemblies

0015 Aircraft Arresting Systems (Continued)

- 113 V887 Replace AAS net or webbing system anchor straps
114 V890 Replace AAS phenolic pads
115 V891 Replace AAS pneumatic components
116 V892 Replace AAS reel side plates
117 V893 Replace AAS relief valves
118 V894 Replace AAS rewind motors
119 V895 Replace AAS rewind system components
120 V896 Replace AAS runway control circuits
121 V897 Replace AAS shear pins
122 V898 Replace AAS sheave bearings
123 V899 Replace AAS sheaves
124 V900 Replace AAS support box components
125 V901 Replace AAS tape cleaning brushes
126 V902 Replace AAS tape connectors
127 V903 Replace AAS tapes
128 V904 Replace AAS tower control circuits
129 V905 Replace electrical wiring in AAS circuits
130 V906 Replace MA-1A intermediate stanchion components
131 V907 Replace MA-1A main stanchion components
132 V908 Replace MA-1A main stanchions
133 V909 Replace MAAS hydraulic trailer system components
134 V910 Replace MAAS trailer braking system components
135 V911 Replace MAAS trailer suspension system components
136 V913 Reset AASs after arrests
137 V914 Synchronize AASs
138 V915 Take or record AAS gauge readings after arrests
139 V916 Tie down AAS arresting cables
140 V917 Turn AAS tapes end-for-end
141 W918 Assemble AM-2 matting for rapid runway repairs
142 W924 Construct fiberglass reinforced polyurethane (FRP) runway repairs
143 W932 Erect bare base structures
144 W944 Install airfield lighting
145 W947 Lay AM-2 matting for aircraft parking revetments
146 W948 Lay AM-2 matting for surfaces, other than runways or aircraft parking
147 W950 Maintain airfield lighting
148 W957 Operate dump trucks for contingency exercises or operations
149 W985 Perform spall silikal repairs
150 W1000 Tear down bare base structures
-

0016 Governors

- 1 O532 Adjust governor controls
2 O534 Adjust governor linkages
3 O535 Adjust overspeed trip devices
4 O536 Adjust stability and gain of electronic governors
5 O539 Flush governor oil systems

0016 Governors (Continued)

- 6 O543 Isolate malfunctions within electronic governors
 - 7 O544 Isolate malfunctions within hydraulic governors
 - 8 O547 Perform compensation adjustments on governors
 - 9 O549 Replace electrical governor components
 - 10 O551 Replace governors
 - 11 O552 Replace overspeed trip devices
-

0017 Switchgear

- 1 R618 Isolate malfunctions within control switches
 - 2 R619 Isolate malfunctions within electrical protective relays
 - 3 R620 Isolate malfunctions within instrument metering circuits
 - 4 R621 Isolate malfunctions within instrument meters
 - 5 R622 Isolate malfunctions within solid-state voltage regulators
 - 6 R623 Isolate malfunctions within switchgear circuits
 - 7 R627 Perform periodic maintenance on circuit breakers
 - 8 R628 Perform periodic maintenance on control switches
 - 9 R629 Perform periodic maintenance on electrical protective relays
 - 10 R630 Perform periodic maintenance on solid-state voltage regulators
 - 11 R632 Perform periodic maintenance on switchgear relays
 - 12 R636 Replace circuit breakers
 - 13 R637 Replace control switches
 - 14 R638 Replace electrical protective relays
 - 15 R642 Replace silicon controlled rectifiers (SCRs)
 - 16 R643 Replace solid-state voltage regulators
 - 17 R645 Replace switchgear components, such as diodes or relays
-

0018 Cooling Systems

- 1 L439 Analyze oil seal failures
 - 2 N512 Add rust inhibitor to cooling systems
 - 3 N513 Adjust cooling system chemical levels
 - 4 N514 Adjust cooling system temperature regulating valves
 - 5 N516 Clean cooling system heat exchangers
 - 6 N522 Lubricate cooling system components
 - 7 N524 Overhaul cooling system components, such as pumps, radiators, or heat exchangers
 - 8 N525 Replace cooling system heat exchangers or radiators
 - 9 N526 Replace cooling system temperature regulating valves
 - 10 N529 Replace electric coolant heater components
 - 11 N530 Test cooling system chemical levels
-

0019 Lubricating Systems Inspections

- 1 L444 Inspect lube oil preheaters
- 2 L446 Inspect or clean lube oil heat exchangers
- 3 L447 Inspect or clean lube oil pump strainers

0019 Lubricating Systems Inspections (Continued)

- 4 L448 Inspect or clean lube oil sumps
 - 5 L449 Inspect or clean lube oil tanks
 - 6 L452 Maintain lube oil preheaters
-

0020 Fuel Injectors

- 1 M461 Adjust fuel injection pump pressure
 - 2 M463 Adjust or calibrate fuel injectors
 - 3 M490 Replace fuel injector components
 - 4 M498 Replace individual fuel injectors
 - 5 M506 Test fuel injectors
-

0021 Air Intake

- 1 P558 Inspect emergency air shutoffs
 - 2 P562 Inspect or clean air intake silencers
 - 3 P564 Inspect or clean intake or exhaust system intercoolers
 - 4 P565 Maintain intake air ducts
 - 5 P567 Replace air intake silencers
 - 6 P574 Test emergency air shutoffs
-

0022 Engines

- 1 I299 Adjust piston ring-end gaps
- 2 I300 Align crankshafts
- 3 I301 Assemble or disassemble engines
- 4 I302 Clean cylinder liners
- 5 I303 Clean engine blocks
- 6 I304 Clean engine crankcases
- 7 I305 Grind or reface valve faces, valve stems, or valve seats
- 8 I306 Hone engine cylinders
- 9 I307 Inspect camshafts
- 10 I308 Inspect crankshafts
- 11 I309 Inspect cylinder heads
- 12 I310 Inspect cylinder liners
- 13 I311 Inspect engine blocks
- 14 I312 Inspect engine crankcases
- 15 I314 Inspect pistons
- 16 I315 Inspect thrust bearings
- 17 I316 Inspect valves and valve spring assemblies
- 18 I321 Measure connecting rod and main bearing clearances
- 19 I322 Measure connecting rod bolts for stretch
- 20 I323 Measure crankshaft end-thrust clearances
- 21 I324 Measure crankshaft wear
- 22 I325 Measure cylinder liners
- 23 I326 Measure gear backlash

0022 Engines (Continued)

- 24 I327 Measure piston ring-end gaps
 - 25 I328 Regrout or chock diesel engines
 - 26 I330 Replace camshafts
 - 27 I331 Replace connecting rod assemblies
 - 28 I332 Replace connecting rod bearings
 - 29 I333 Replace crankshafts
 - 30 I334 Replace cylinder heads
 - 31 I335 Replace cylinder liners
 - 32 I340 Replace main bearings
 - 33 I341 Replace piston rings
 - 34 I342 Replace pistons
 - 35 I343 Replace rocker arm bushings
 - 36 I344 Replace rocker arm shafts
 - 37 I345 Replace valve seats
 - 38 I346 Replace valves and valve spring assemblies
 - 39 I347 Take or record cylinder pressure readings
 - 40 I348 Take or record firing or compression readings
 - 41 I350 Time camshafts
-

0023 Power Plant

- 1 U747 Install or remove engines for power plants
 - 2 U757 Perform break-in operations of overhauled power plant equipment
 - 3 U760 Perform depot-level rebuilding of power plant prime mover components
 - 4 U764 Perform scheduled overhaul inspections of prime power plants, such as 8,000-hour and above
 - 5 U768 Remove or relocate power plant generator assemblies
 - 6 U773 Rig hoisting devices for installation or removal of heavy power plant equipment
-

0024 Alternators and Exciters

- 1 Q592 Isolate malfunctions within alternators
- 2 Q593 Isolate malfunctions within exciters
- 3 Q599 Replace alternator reconnection panel components
- 4 Q600 Replace alternators
- 5 Q603 Replace exciter solid-state components, such as diodes, armatures, or surge protectors
- 6 Q605 Test alternator solid-state components
- 7 Q606 Test exciter solid-state components
- 8 Q607 Test insulation resistance of alternator windings
- 9 Q608 Test insulation resistance of exciter windings

0025 Circuit Breakers

- 1 R611 Adjust circuit breaker contacts
 - 2 R613 Adjust electrical circuit breakers
 - 3 R615 Adjust mechanical circuit breakers
 - 4 R635 Replace circuit breaker contacts
-

0026 Test Switchgear

- 1 R651 Test directional overcurrent relays
 - 2 R652 Test overcurrent relays, other than directional
 - 3 R653 Test overfrequency relays
 - 4 R654 Test overvoltage relays
 - 5 R655 Test percentage differential relays
 - 6 R656 Test phase sequence relays
 - 7 R657 Test reverse power relays
 - 8 R658 Test underfrequency relays
 - 9 R659 Test undervoltage relays
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0027 Mobility

- 1 W919 Assign members to mobility positions
- 2 W920 Conduct mobility exercise or deployment site surveys
- 3 W922 Conduct mobility training
- 4 W925 Construct field fortifications
- 5 W927 Coordinate mobility exercise or contingency requirements with appropriate agencies
- 6 W928 Develop mobility inspection checklists
- 7 W937 Establish mobility workcenters during mobility exercises or deployments
- 8 W938 Evaluate mobility exercise or deployment after-action report inputs
- 9 W941 Identify equipment or personnel requirements for mobility exercises or deployments
- 10 W945 Install secondary distribution centers
- 11 W951 Maintain high-voltage distribution systems
- 12 W952 Maintain secondary distribution centers
- 13 W953 Maintain workcenter pyramid recall plans
- 14 W954 Monitor mobility deployments kits
- 15 W966 Participate in mobility exercise planning meetings
- 16 W967 Perform bomb damage repairs, other than crater repairs
- 17 W970 Perform damage assessments
- 18 W971 Perform damage control command and control functions
- 19 W972 Perform damage control duties, other than command and control functions
- 20 W974 Perform disease and pestilence countermeasures
- 21 W977 Perform individual movement techniques for work party security
- 22 W986 Plot damage assessments
- 23 W987 Practice base denial techniques
- 24 W993 Prepare mobility exercise or deployment after-action reports
- 25 W995 Prepare sites at deployed locations, such as cutting grass or removing snow
- 26 W996 Prepare workcenter pyramid recall plans
- 27 W999 Set up site security

0028 Respirators

- 1 G246 Maintain portable fuel burning heaters
 - 2 X1004 Annotate master log books to document amount of acid waste generated
 - 3 X1006 Apply reflective tape to equipment
 - 4 X1007 Change air-supplied (in-line) respirator system filters
 - 5 X1008 Change respirator cartridges
 - 6 X1009 Change respirator filters, other than air-supplied system filters
 - 7 X1012 Dispose of contaminated protective clothing
 - 8 X1017 Inspect condition of cartridge respirators
 - 9 X1018 Inspect condition of harnesses
 - 10 X1027 Operate portable heating units
 - 11 X1029 Set up portable heating units
 - 12 X1031 Store respirators
-

0029 Technical School Training

- 1 D99 Administer or score tests
 - 2 D101 Brief unit staff personnel on training programs or matters
 - 3 D105 Conduct resident course classroom training
 - 4 D107 Conduct training conferences or briefings
 - 5 D108 Construct or develop training aids
 - 6 D111 Develop career development courses (CDCs) or curricula materials
 - 7 D112 Develop formal course curricula, plans of instructions (POIs), or specialty training standards (STSs)
 - 8 D113 Develop lesson plans
 - 9 D114 Develop new equipment training programs
 - 10 D116 Establish or maintain study reference files
 - 11 D117 Establish procedures for accountability of students
 - 12 D118 Establish training requirements for instructors
 - 13 D119 Evaluate effectiveness of training programs
 - 14 D120 Evaluate performance of instructors
 - 15 D123 Evaluate training materials or aids
 - 16 D124 Evaluate training methods or techniques
 - 17 D125 Inspect training aids for operation or suitability
 - 18 D130 Prepare lesson plans
 - 19 D131 Prepare specialty training packages (STPs) or quality training packages (QTPs)
 - 20 D132 Prepare student withdrawal or entry forms
 - 21 D133 Procure training aids, space, or equipment
 - 22 D137 Write or revise training materials
 - 23 D138 Write test questions
 - 24 D139 Write training reports
-

0030 Work Information Management System

- 1 C83 Indorse civilian performance appraisals
- 2 C92 Write civilian performance appraisals
- 3 E180 Prepare base engineer automated maintenance system (BEAMS) inputs

0030 Work Information Management System (Continued)

- 4 E188 Process requests for emergency backup power
5 F205 Access work information management system (WIMS) menus and data screens
6 F206 Analyze WIMS data
7 F207 Change equipment maintenance schedules in WIMS
8 F208 Clear or close out completed job orders in WIMS
9 F209 Create equipment job orders in WIMS
10 F210 Create equipment PMI schedules in WIMS
11 F211 Defer equipment job orders in WIMS
12 F212 Determine WIMS training requirements
13 F213 Establish equipment maintenance schedules in WIMS
14 F214 Implement WIMS workcenter training programs
15 F215 Input supply data in WIMS
16 F216 Load recurring work program (RWP) data in WIMS
17 F217 Perform WIMS inquiries for uncompleted maintenance event listings
18 F218 Schedule equipment maintenance discrepancies in WIMS
19 F219 Schedule man-hour requirements in WIMS
20 F220 Track equipment maintenance discrepancies in WIMS
21 F221 Track WIMS job-following events
22 F222 Update labor man-hours in WIMS
23 F223 Verify accuracy of daily inputs in WIMS
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0031 Solid-State Uninterruptible Power Systems

- 1 B43 Direct operation or maintenance of uninterruptible power systems (UPSs)
2 S660 Align control circuitry of solid-state uninterruptible power systems (SSUPSs)
3 S663 Conduct SSUPS site surveys
4 S664 Install or remove SSUPSs
5 S669 Isolate malfunctions within SSUPS battery banks
6 S670 Isolate malfunctions within SSUPS control circuits
7 S671 Isolate malfunctions within SSUPS filter bank components
8 S672 Isolate malfunctions within SSUPS inverters
9 S673 Isolate malfunctions within SSUPS parallel cabinets
10 S674 Isolate malfunctions within SSUPS power supplies
11 S675 Isolate malfunctions within SSUPS printed circuit boards
12 S676 Isolate malfunctions within SSUPS rectifier/chargers
13 S677 Isolate malfunctions within SSUPS static switches
14 S678 Perform initial activation of SSUPS battery banks
15 S679 Perform inspections of SSUPS battery banks, other than PMI s
16 S680 Perform parallel operations of SSUPSs
17 S682 Perform periodic maintenance on SSUPSs
18 S683 Perform PMIs of SSUPS battery banks
19 S684 Perform single unit operations of SSUPSs
20 S690 Replace SCRs in SSUPSs
21 S691 Replace SSUPS capacitor bank components
22 S692 Replace SSUPS control circuit components
23 S693 Replace SSUPS filter bank components

0031 Solid-State Uninterruptible Power Systems (Continued)

- 24 S694 Replace SSUPS internal circuit breakers
 - 25 S695 Replace SSUPS printed circuit board components
 - 26 S696 Replace SSUPS printed circuit boards
 - 27 S697 Replace SSUPS summing transformers
 - 28 S698 Replace SSUPS switchgear circuit breakers
 - 29 S700 Shut down or start up SSUPs
 - 30 S701 Solder or desolder SSUPS control circuit wiring
 - 31 S702 Test SSUPS batteries
 - 32 S703 Test SSUPSs using load banks
 - 33 S704 Transfer SSUPS bypass to maintenance bypass
 - 34 S705 Transfer maintenance bypass to SSUPS bypass
 - 35 S708 Transfer to SSUPSs, other than bypass
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0032 Uninterruptible Power Systems

- 1 S661 Calibrate control circuitry of rotary UPSs
 - 2 S662 Clean or burnish rotary UPS control circuit contacts
 - 3 S665 Isolate malfunctions within rotary UPS clutch systems
 - 4 S666 Isolate malfunctions within rotary UPS control cubicles
 - 5 S667 Isolate malfunctions within rotary UPS master control panels
 - 6 S668 Isolate malfunctions within rotary UPS power supplies
 - 7 S681 Perform periodic maintenance on rotary UPSs
 - 8 S685 Perform vibration tests on rotary UPSs
 - 9 S686 Replace rotary UPS clutch system components
 - 10 S687 Replace rotary UPS control circuit components
 - 11 S688 Replace rotary UPS motor generator set bearings
 - 12 S689 Replace rotary UPS switchgear circuit breakers
 - 13 S699 Shut down or start up rotary UPSs
 - 14 S706 Transfer to bypass rotary UPSs
 - 15 S707 Transfer to rotary UPSs, other than bypass
-

0033 Gas Turbine

- 1 J353 Adjust gas turbine engine control circuits
- 2 J355 Adjust gas turbine generator control circuits
- 3 J360 Clean gas turbine engine exhaust system components
- 4 J363 Clean gas turbine engine intake air systems
- 5 J365 Inspect gas turbine combustor chambers, turbine nozzles, and manifold assemblies
- 6 J366 Inspect gas turbine engine temperature thermocouples
- 7 J367 Inspect gas turbine exhaust temperature thermocouples
- 8 J374 Isolate malfunctions within gas turbine engine control circuits
- 9 J375 Isolate malfunctions within gas turbine generator set control circuits
- 10 J382 Replace gas turbine engine control circuit components
- 11 J383 Replace gas turbine engine exhaust system components

0033 Gas Turbine (Continued)

- 12 J385 Replace gas turbine engine fuel nozzles
 - 13 J386 Replace gas turbine engine ignitors
 - 14 J387 Replace gas turbine engine intake air filters
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0034 Solar 750kw Gas Turbine

- 1 J354 Adjust gas turbine fuel systems cracking pressures
 - 2 J356 Calibrate Solar 750 kw gas turbine control system circuits
 - 3 J357 Calibrate Solar 750 kw gas turbine engine speed monitors
 - 4 J358 Calibrate Solar 750 kw gas turbine exhaust temperature monitors
 - 5 J359 Calibrate Solar 750 kw gas turbine temperature monitors, other than exhaust temperature monitors
 - 6 J362 Clean gas turbine engine ignitors
 - 7 J364 Couple and align gas turbine engines and generators
 - 8 J368 Inspect gas turbine prelube systems
 - 9 J369 Inspect or clean Solar 750 kw gas turbine oil cooler assemblies
 - 10 J370 Inspect or clean Solar 750 kw gas turbine sixth stage bleed air valves
 - 11 J371 Inspect Solar 750 kw gas turbine high-voltage connectors, lightning arresters, and insulators
 - 12 J372 Inspect Solar 750 kw gas turbine output vacuum contactors
 - 13 J376 Lubricate Solar 750 kw gas turbine engine to generator couplings
 - 14 J381 Replace gas turbine combustor components
 - 15 J388 Replace gas turbine engine protective devices
 - 16 J389 Replace gas turbine engine starting system components
 - 17 J390 Replace gas turbine engines
 - 18 J392 Replace gas turbine generator control circuit components
 - 19 J393 Replace gas turbine prelube system filters
 - 20 J394 Test Solar 750 kw gas turbine control system circuits
 - 21 J395 Test Solar 750 kw gas turbine engine speed monitors
 - 22 J396 Test Solar 750 kw gas turbine exhaust temperature monitors
 - 23 J397 Test Solar 750 kw gas turbine temperature monitors, other than exhaust temperature monitors
 - 24 J398 Verify gas turbine control linkage security and adjustments
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0035 Tasks Not Clustered

- 1 A27 Perform power surveys, other than for civil engineering maintenance, inspection, repair, and training (CEMIRT)
- 2 A28 Plan layouts of facilities
- 3 A32 Plan safety or security programs
- 4 B40 Direct development or maintenance of status indicators, such as boards, graphs, or charts
- 5 B41 Direct installation or removal of prime or standby power plants or associated equipment
- 6 B42 Direct maintenance of accessory or auxiliary equipment systems
- 7 B46 Implement safety or security programs

0035 Tasks Not Clustered (Continued)

- 8 B51 Initiate technical order improvement reports
9 B54 Monitor electrical power production contracts
10 B59 Supervise military personnel with AFSCs other than 542X2
11 C62 Complete USAF Graduate Evaluation Program forms or questionnaires
12 C66 Evaluate deficiency, service, or status reports, such as materiel deficiency reports (MDRs)
13 C67 Evaluate engine performance data
14 C68 Evaluate equipment development or modification data
15 C70 Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) Program standards
16 C71 Evaluate layouts of facilities
17 C72 Evaluate maintenance data collection (MDC) reports
18 C75 Evaluate modified or prototype equipment
19 C79 Evaluate safety or security programs
20 C81 Evaluate technical order improvement reports
21 C82 Identify problem areas using deficiency, service, or status reports, such as MDRs
22 C85 Initiate deficiency, service, or status reports, such as MDRs
23 C86 Investigate accidents or incidents
24 C88 Perform quality control inspections of electrical power production equipment
25 C89 Perform quality control maintenance standard evaluations of electrical power production personnel
26 C90 Perform receiving inspections of incoming equipment
27 C91 Review preventive maintenance schedules
28 C94 Write inspection reports
29 C95 Write quality control evaluation reports
30 C98 Write staff studies, surveys, or special reports, other than training reports
31 D106 Conduct safety or security training
32 D128 Plan safety or security training
33 E140 Compile information for records or reports
34 E141 Complete accident or incident report forms
35 E143 Develop equipment checklists
36 E144 Establish publication libraries
37 E145 Establish quality standards for inspections of repaired items or equipment
38 E148 Evaluate changes in equipment allowances or authorizations
39 E149 Evaluate equipment storage procedures
40 E150 Evaluate repair capability lists
41 E153 Initiate accident or incident reports
42 E154 Initiate unsatisfactory or technical order deficiency reports
43 E161 Maintain administrative files
44 E163 Maintain blueprint files
45 E164 Maintain daily status records on support equipment
46 E166 Maintain equipment time change requirements
47 E167 Maintain inspection cards on items requiring periodic inspections
48 E168 Maintain maintenance log books
49 E170 Maintain power plant operating log books
50 E171 Maintain precision measurement equipment (PME) calibration schedules

0035 Tasks Not Clustered (Continued)

- 51 E172 Maintain preventive maintenance inspection (PMI) listings
52 E174 Maintain publication libraries or files, other than technical order files
53 E175 Maintain security forms on safes, records, or for rooms
54 E176 Maintain technical order files
55 E179 Participate in time compliance technical order (TCTO) meetings
56 E182 Prepare maintenance schedules
57 E183 Prepare or update wiring diagrams
58 E193 Review deficiency, service, or status reports, such as MDRs
59 E194 Schedule test or support equipment for calibration
60 E195 Store or secure equipment, tools, or supplies
61 E200 Validate TCTOs
62 E201 Verify receipt of TCTO changes
63 E203 Write minutes of briefings or conferences
64 E204 Write reports on emergency power production equipment (EPPE) maintenance
65 G224 Adjust pneumatic control pressure regulators
66 G225 Adjust pneumatic control valves
67 G226 Adjust power generating equipment drive belts
68 G227 Adjust power generating equipment drive chains
69 G228 Change paper in recording devices
70 G229 Clean annunciator alarm system contacts
71 G230 Color code diesel engine systems or accessories
72 G231 Conduct facility surveys
73 G232 Conduct tours of electrical power production facilities
74 G233 Extract power production system performance data from computers
75 G234 Fabricate replacement gaskets
76 G236 Inspect power generating equipment drive chains
77 G237 Install electrical grounds
78 G238 Install generator control wiring
79 G239 Install power distribution boxes
80 G240 Interpret blueprints or mechanical, structural, or construction drawings
81 G243 Maintain engines for water pumping stations
82 G244 Maintain fire protection deluge systems
83 G245 Maintain no-break systems
84 G248 Maintain sump pumps, other than AAS pit sump pumps
85 G249 Modify distribution of electrical circuits
86 G250 Monitor commercial power
87 G251 Monitor power production system computers
88 G252 Operationally check annunciator alarms
89 G253 Overhaul fuel burning heaters, other than portable fuel burning heaters
90 G254 Perform arc or gas welding
91 G257 Perform operator maintenance on vehicles
92 G258 Perform or practice cardiopulmonary resuscitation (CPR)
93 G259 Perform preinstallation surveys for electrical power equipment
94 G260 Perform soft soldering, other than solid-state uninterruptible power systems (SSUPSSs)
95 G261 Perform TCTO modifications of power production equipment

0035 Tasks Not Clustered (Continued)

- 96 G264 Rebuild pneumatic control pressure regulators
97 G265 Rebuild pneumatic control valves
98 G267 Replace engine preheating devices
99 G268 Replace fuel burning heaters, other than portable fuel burning heaters
100 G269 Replace pneumatic control pressure regulator components
101 G270 Replace pneumatic control pressure regulators
102 G271 Replace pneumatic control valves
103 G272 Replace power generating equipment drive belts
104 G273 Replace power generating equipment drive chains
105 G274 Replace solid-state components, other than SSUPPs
106 G275 Replace wiring, other than electrical wiring in AAS circuits
107 G276 Replenish ink supply in recording devices
108 G278 Service or charge lead-calcium batteries
109 G279 Service or charge nickel-cadmium batteries
110 G280 Set up or remove portable electrical power production equipment fuel supplies at remote locations
111 G281 Set up or remove portable generators at remote locations
112 G282 Test electrical grounds
113 G283 Verify phase rotation of generators
114 H285 Clean automatic transfer panels
115 H287 Inspect automatic transfer panel components
116 H288 Inspect automatic transfer panel wiring and cable connections
117 H292 Perform functional tests of automatic transfer panels
118 I297 Adjust air start system components
119 I298 Adjust engine safety circuits or protective devices
120 I313 Inspect engine safety circuits or protective devices
121 I317 Isolate malfunctions within air start systems
122 I318 Isolate malfunctions within electric start systems
123 I319 Isolate malfunctions within engine safety circuits or protective devices
124 I320 Isolate malfunctions within gasoline engine ignition systems
125 I329 Replace air start system components
126 I336 Replace electric start system components
127 I337 Replace engine safety circuits or protective devices
128 I338 Replace engine seals or gaskets
129 I339 Replace ignition system components
130 I349 Test engine safety circuits or protective devices
131 I351 Time ignition systems
132 I352 Tune up gasoline engines
133 J361 Clean gas turbine engine heat recovery system components
134 J373 Install or remove Solar 750 kw gas turbine mobile fuel system bladders
135 J377 Patch Solar 750 kw gas turbine mobile fuel system bladders
136 J378 Perform postoperational inspections of gas turbine engines
137 J379 Perform preoperational inspections of gas turbine engines
138 J380 Refuel Solar 750 kw gas turbine mobile fuel system bladder s
139 J384 Replace gas turbine engine fuel clusters
140 J391 Replace gas turbine gear drive assemblies

0035 Tasks Not Clustered (Continued)

- 141 K399 Adjust air compressor relief valves
142 K400 Adjust battery chargers
143 K401 Adjust centrifuges
144 K402 Adjust voltage regulators
145 K403 Adjust waste heat recovery equipment
146 K405 Clean waste heat recovery equipment
147 K406 Convert centrifuges from clarifiers to separators or from separators to clarifiers
148 K408 Inspect or clean air compressor coolers
149 K410 Inspect or clean battery chargers
150 K411 Inspect or clean centrifuges
151 K412 Inspect or clean chemical pot feeders
152 K414 Inspect or clean programmable controller components
153 K416 Isolate malfunctions within battery chargers
154 K417 Isolate malfunctions within programmable controllers
155 K418 Isolate malfunctions within voltage regulator circuits
156 K420 Maintain water softeners
157 K421 Program programmable controllers
158 K422 Replace air compressor components, other than relief valve s
159 K424 Replace air compressor relief valves
160 K425 Replace air compressors
161 K426 Replace battery charger components or units
162 K427 Replace battery-charging generators
163 K428 Replace battery-charging regulators
164 K429 Replace centrifuge parts
165 K430 Replace electric motor controls
166 K431 Replace electric motors
167 K432 Replace load bank components
168 K433 Replace load banks
169 K434 Replace programmable controller components
170 K435 Replace voltage regulator components
171 K436 Replace voltage regulators, other than magnetic amplifier or solid-state voltage regulators
172 K437 Replace waste heat recovery equipment components
173 L438 Adjust oil pressure relief valves
174 L441 Evaluate lube oil analysis reports
175 L442 Field test lube oil
176 L445 Inspect or clean crankcase vent systems
177 L450 Isolate malfunctions within lubricating oil systems
178 L451 Isolate malfunctions within oil pressure switches
179 L453 Package lube oil samples for testing
180 L454 Perform tests of lube oil, other than field tests
181 L456 Replace lube oil heat exchangers
182 L457 Replace lube oil preheaters
183 L458 Replace lube oil pumps
184 L459 Replace oil transfer pump parts
185 M460 Adjust engine carburetors

0035 Tasks Not Clustered (Continued)

- 186 M462 Adjust fuel manifold pressure
187 M464 Balance cylinder loads
188 M465 Connect auxiliary fuel sources
189 M466 Drain fuel tanks
190 M467 Drain water from fuel system components
191 M468 Evaluate fuel oil analysis reports
192 M469 Inspect or clean engine carburetors
193 M471 Inspect or clean fuel tanks
194 M472 Inspect or clean fuel transfer pumps
195 M476 Isolate malfunctions within distributor-type fuel systems
196 M477 Isolate malfunctions within gasoline engine fuel systems
197 M478 Isolate malfunctions within individual fuel systems
198 M479 Isolate malfunctions within pressure time (PT) fuel system s
199 M480 Isolate malfunctions within unit injector fuel systems
200 M482 Overhaul hydraulic-type fuel injectors
201 M483 Package fuel oil samples for testing
202 M484 Paint fuel tanks
203 M486 Rebuild engine carburetors
204 M487 Replace distributor-type fuel pumps
205 M488 Replace engine carburetors
206 M491 Replace fuel system manifolds
207 M495 Replace hand-priming pumps
208 M496 Replace hydraulic-type fuel injectors
209 M497 Replace individual cylinder fuel injection pump components
210 M499 Replace individual fuel pumps
211 M500 Replace mechanical fuel injectors
212 M501 Replace PT fuel pumps
213 M502 Replace PT fuel solenoid valves
214 M503 Replace PT gear pumps
215 M504 Replace unit injector-type fuel system components
216 M505 Test fuel for water content
217 M507 Time distributor-type fuel pumps
218 M508 Time individual fuel pumps
219 M509 Time unit injector-type fuel injectors
220 M510 Transfer fuel from storage tanks to day tanks
221 N515 Adjust ebullient cooling systems
222 N517 Drain, flush, or clean cooling systems
223 N518 Inspect cooling system components
224 N519 Inspect or clean ebullient cooling systems
225 N520 Install electric coolant heaters
226 N521 Isolate malfunctions within cooling systems
227 N523 Operationally check open cooling systems, such as cooling towers
228 N527 Replace cooling system thermostats
229 N528 Replace ebullient cooling system components
230 N531 Test engine coolants
231 O533 Adjust governor friction couplings

0035 Tasks Not Clustered (Continued)

- 232 O538 Clean governor oil filters or strainers
233 O540 Inspect governors
234 O541 Inspect or clean governor oil coolers
235 O542 Isolate malfunctions within advanced governors
236 O545 Isolate malfunctions within governor dump valves
237 O546 Perform base-level testing of governors
238 O548 Perform initial start and calibration procedures for control governors with electric actuators
239 O550 Replace governor oil filters or strainers
240 O553 Test overspeed trip devices
241 P554 Adjust intake and exhaust valves
242 P555 Adjust linkages of emergency air shutoffs
243 P556 Change oil in air intake filters or cleaners
244 P557 Clean thermocouples
245 P559 Inspect exhaust system components
246 P560 Inspect lobe-type blowers
247 P561 Inspect or clean air intake filters or cleaners
248 P563 Inspect or clean diesel engine turbochargers
249 P566 Replace air intake filters or cleaners
250 P568 Replace diesel engine turbochargers
251 P569 Replace exhaust system components
252 P570 Replace intake or exhaust system intercoolers
253 P571 Replace lobe-type blowers
254 P572 Replace pyrometers
255 P573 Replace thermocouples
256 P575 Verify blower lobe clearances
257 Q576 Adjust alternator air gaps
258 Q577 Adjust brush holders
259 Q578 Adjust exciter brush spring tensions
260 Q579 Align excitors with alternators
261 Q580 Dress alternator slippings
262 Q581 Dress exciter commutators
263 Q582 Flash exciter fields
264 Q583 Inspect or clean alternator bearings
265 Q584 Inspect or clean alternator slippings
266 Q585 Inspect or clean brush holders
267 Q586 Inspect or clean brushes
268 Q587 Inspect or clean exciter commutators
269 Q588 Inspect, clean, or dry alternator windings
270 Q589 Inspect, clean, or dry exciter windings
271 Q590 Insulate alternator output connections
272 Q591 Isolate causes of brush sparking or arcing malfunctions
273 Q594 Lubricate alternator bearings
274 Q595 Lubricate exciter bearings
275 Q596 Measure out-of-round on alternator slippings
276 Q597 Measure out-of-round on exciter commutators

0035 Tasks Not Clustered (Continued)

- 277 Q598 Replace alternator bearings
278 Q601 Replace brushes or brush holders
279 Q602 Replace exciter bearings
280 Q604 Seat brushes
281 Q609 Undercut exciter commutators
282 R610 Adjust automatic synchronization equipment
283 R612 Adjust dynamic breaking circuits of circuit breakers
284 R614 Adjust hydraulic circuit breakers
285 R616 Establish operating range for protective relays
286 R617 Inspect or clean circuit breakers
287 R624 Isolate malfunctions within voltage regulators, other than solid-state
288 R625 Perform internal adjustments on solid-state voltage regulators
289 R626 Perform internal adjustments on voltage regulators, other than solid-state
290 R631 Perform periodic maintenance on switchgear battery banks
291 R633 Perform periodic maintenance on voltage regulators, other than solid-state
292 R634 Replace arc-chutes
293 R640 Replace instrument meters
294 R641 Replace magnetic amplifier voltage regulators
295 R644 Replace switchgear battery banks
296 R646 Replace switchgear power cables
297 R647 Replace switchgear surge protectors
298 R648 Replace switching solenoids
299 R649 Rewire switchgear
300 R650 Take or record switchgear indicator readings
301 T710 Assemble or disassemble generator sets
302 T712 Determine fuel requirements for generator set operations
303 T716 Monitor or adjust switchgear controls during operation
304 T717 Monitor or adjust switchgear devices during operation
305 T718 Parallel generator sets automatically
306 T719 Parallel generator sets manually
307 T720 Parallel generator sets with commercial power
308 T721 Perform generator set emergency shutdown procedures
309 T729 Replace generator set cables
310 T731 Switch generator set operations from single bus to split bus or from split bus to single bus
311 U734 Bar-over and lubricate stored real property electrical power production equipment
312 U735 Brief civil engineering maintenance inspection, repair, and training (CEMIRT) activities or actions
313 U736 Calibrate circuit breaker overcurrent elements
314 U737 Calibrate protective relays for minimum pickup
315 U738 Calibrate protective relays for time delays
316 U739 Conduct CEMIRT analyses of real property installed equipment (RPIE) power plant equipment status or condition
317 U740 Conduct CEMIRT evaluations of mission power requirements for power plants
318 U741 Construct, reconstruct, or modify power plant foundations
319 U742 Coordinate power plant problems with appropriate agencies

0035 Tasks Not Clustered (Continued)

- 320 U743 Coordinate requirements for power plant rehabilitation projects with AFCESA and requesting agencies
- 321 U744 Develop power plant redesign or construction information for appropriate agencies
- 322 U745 Install or remove alternators for power plants
- 323 U746 Install or remove electrical distribution systems for power plants
- 324 U748 Install or remove exciters for power plants
- 325 U749 Install or remove storage tanks for power plants
- 326 U750 Install or remove waste heat recovery equipment
- 327 U751 Overhaul distributor-type injection pumps
- 328 U752 Overhaul individual fuel injection pumps
- 329 U753 Overhaul mechanical fuel injectors
- 330 U754 Overhaul PT fuel injection pumps
- 331 U755 Overhaul real property electrical power production equipment for hold
- 332 U756 Overhaul unit injector-type fuel injectors
- 333 U758 Perform CEMIRT annual inspections of standby power plants
- 334 U759 Perform depot-level rebuilding of power plant fuel system components
- 335 U761 Perform depot-level rebuilding of power plant speed-sensing or load-sensing devices
- 336 U762 Perform depot-level rebuilding of power plant turbochargers
- 337 U763 Perform run-in acceptance tests for newly installed power plants
- 338 U765 Plan power plant rehabilitation projects
- 339 U766 Prepare reports on CEMIRT activities or actions
- 340 U767 Preserve stored real property electrical power production equipment for hold
- 341 U769 Remove power plant foundations
- 342 U770 Replace hydraulic governor components
- 343 U771 Replace supercharger bearings
- 344 U772 Replace supercharger seals
- 345 U774 Test and calibrate fuel pumps
- 346 U775 Test and calibrate governors
- 347 V783 Adjust 61QSII net system control valve linkages
- 348 V818 Install 61QSII net systems
- 349 V830 Isolate malfunctions within AAS net system control panels
- 350 V888 Replace AAS net or webbing system compressor switches
- 351 V889 Replace AAS net or webbing system electrical components
- 352 V912 Replace 61QSII net system stanchion components
- 353 W921 Conduct mobility surveillance visits
- 354 W923 Construct concrete slab runway repairs
- 355 W926 Construct fire dikes
- 356 W931 Erect B-1 republic steel revetments for aircraft parking
- 357 W934 Erect concrete portable revetments for aircraft parking
- 358 W949 Load plan aircraft for deployments
- 359 W980 Perform scab silikal repairs
- 360 W981 Perform shelter team manager duties
- 361 W982 Perform shelter team member duties
- 362 W984 Perform small crater crushed stone repairs
- 363 W997 Process classified materials
- 364 W1002 Tow AM-2 matting for rapid runway repairs